



SEQUENCE LISTING

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<120> METHODS TO ENGINEER MAMMALIAN-TYPE
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<140> 10/500,240

<141> 2004-06-25

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<151> 2002-12-24

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tcctggcgcg ccttcccgag agaactggcc tccttc

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28

<210> 23

<211> 4

<212> PRT

<213> Saccharomyces cerevisiae

<400> 23

His Asp Glu Leu

1

<210> 24

<211> 458

<212> PRT

<213> Saccharomyces cerevisiae

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<222> (304)...(318)

<223> Variable amino acid

<220>

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<222> (416)...(436)

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Gln Phe Val Arg Pro Pro Leu Asp Leu Trp Gln Asp Leu Lys Asp Gly			
20	25	30	
Val Arg Tyr Val Ile Phe Asp Cys Arg Ala Asn Leu Ile Val Met Pro			
35	40	45	
Leu Leu Ile Leu Phe Glu Ser Met Leu Cys Lys Ile Ile Ile Lys Lys			
50	55	60	
Val Ala Tyr Thr Glu Ile Asp Tyr Lys Ala Tyr Met Glu Gln Ile Glu			
65	70	75	80
Met Ile Gln Leu Asp Gly Met Leu Asp Tyr Ser Gln Val Ser Gly Gly			
85	90	95	
Thr Gly Pro Leu Val Tyr Pro Ala Gly His Val Leu Ile Tyr Lys Met			
100	105	110	
Met Tyr Trp Leu Thr Glu Gly Met Asp His Val Glu Arg Gly Gln Val			
115	120	125	
Phe Phe Arg Tyr Leu Tyr Leu Leu Thr Leu Ala Leu Gln Met Ala Cys			
130	135	140	
Tyr Tyr Leu Leu His Leu Pro Pro Trp Cys Val Val Leu Ala Cys Leu			
145	150	155	160
Ser Lys Arg Leu His Ser Ile Tyr Val Leu Arg Leu Phe Asn Asp Cys			
165	170	175	
Phe Thr Thr Leu Phe Met Val Val Thr Val Leu Gly Ala Ile Val Ala			
180	185	190	
Ser Arg Cys His Gln Arg Pro Lys Leu Lys Lys Ser Leu Ala Leu Val			
195	200	205	
Ile Ser Ala Thr Tyr Ser Met Ala Val Ser Ile Lys Met Asn Ala Leu			
210	215	220	
Leu Tyr Phe Pro Ala Met Met Ile Ser Leu Phe Ile Leu Asn Asp Ala			
225	230	235	240
Asn Val Ile Leu Thr Leu Leu Asp Leu Val Ala Met Ile Ala Trp Gln			
245	250	255	
Val Ala Val Ala Val Pro Phe Leu Arg Ser Phe Pro Gln Gln Tyr Leu			
260	265	270	
His Cys Ala Phe Asn Phe Gly Arg Lys Phe Met Tyr Gln Trp Ser Ile			
275	280	285	
Asn Trp Gln Met Met Asp Glu Glu Ala Phe Asn Asp Lys Arg Phe Xaa			
290	295	300	

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<210> 25
<211> 458
<212> PRT
<213> Saccharomyces cerevisiae
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		85						90						95	
Thr	Gly	Pro	Leu	Val	Tyr	Pro	Ala	Gly	His	Val	Leu	Ile	Tyr	Lys	Met
		100						105						110	
Met	Tyr	Trp	Leu	Thr	Glu	Gly	Met	Asp	His	Val	Glu	Arg	Gly	Gln	Val
		115						120						125	
Phe	Phe	Arg	Tyr	Leu	Tyr	Leu	Leu	Thr	Leu	Ala	Leu	Gln	Met	Ala	Cys
		130						135						140	
Tyr	Tyr	Leu	Leu	His	Leu	Pro	Pro	Trp	Cys	Val	Val	Leu	Ala	Cys	Leu
145					150					155					160
Ser	Lys	Arg	Leu	His	Ser	Ile	Tyr	Val	Leu	Arg	Leu	Phe	Asn	Asp	Cys
				165						170					175
Phe	Thr	Thr	Leu	Phe	Met	Val	Val	Thr	Val	Leu	Gly	Ala	Ile	Val	Ala
			180							185					190
Ser	Arg	Cys	His	Gln	Arg	Pro	Lys	Leu	Lys	Lys	Ser	Leu	Ala	Leu	Val
		195						200						205	
Ile	Ser	Ala	Thr	Tyr	Ser	Met	Ala	Val	Ser	Ile	Lys	Met	Asn	Ala	Leu
		210						215						220	
Leu	Tyr	Phe	Pro	Ala	Met	Met	Ile	Ser	Leu	Phe	Ile	Leu	Asn	Asp	Ala
225					230					235					240
Asn	Val	Ile	Leu	Thr	Leu	Leu	Asp	Leu	Val	Ala	Met	Ile	Ala	Trp	Gln
				245						250					255
Val	Ala	Val	Ala	Val	Pro	Phe	Leu	Arg	Ser	Phe	Pro	Gln	Gln	Tyr	Leu
			260							265					270
His	Cys	Ala	Phe	Asn	Phe	Gly	Arg	Lys	Phe	Met	Tyr	Gln	Trp	Ser	Ile
		275						280							285
Asn	Trp	Gln	Met	Met	Asp	Glu	Glu	Ala	Phe	Asn	Asp	Lys	Arg	Phe	His
		290						295							300
Leu	Ala	Leu	Leu	Ile	Ser	His	Leu	Ile	Ala	Leu	Thr	Thr	Leu	Phe	Val
305					310					315					320
Thr	Arg	Tyr	Pro	Arg	Ile	Leu	Pro	Asp	Leu	Trp	Ser	Ser	Leu	Cys	His
				325						330					335
Pro	Leu	Arg	Lys	Asn	Ala	Val	Leu	Asn	Ala	Asn	Pro	Ala	Lys	Thr	Ile
			340							345					350
Pro	Phe	Val	Leu	Ile	Ala	Ser	Asn	Phe	Ile	Gly	Val	Leu	Phe	Ser	Arg
		355						360							365

Ser Leu His Tyr Gln Phe Leu Ser Trp Tyr His Trp Thr Leu Pro Ile
 370 375 380
 Leu Ile Phe Trp Ser Gly Met Pro Phe Phe Val Gly Pro Ile Trp Tyr
 385 390 395 400
 Val Leu His Glu Trp Cys Trp Asn Ser Tyr Pro Pro Asn Ser Gln Ala
 405 410 415
 Ser Thr Leu Leu Leu Ala Leu Asn Thr Val Leu Leu Leu Leu Leu Ala
 420 425 430
 Leu Thr Gln Leu Ser Gly Ser Val Ala Leu Ala Lys Ser His Leu Arg
 435 440 445
 Thr Thr Ser Ser Met Glu Lys Lys Leu Asn
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<210> 26

<211> 443

<212> PRT

<213> *Saccharomyces cerevisiae*

<220>

<221> MOD_RES

<222> (333)...(347)

<223> Variable amino acid

<400> 26

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 Ala Asn Leu Ile Val Met Pro Leu Leu Ile Leu Phe Glu Ser Met Leu
 20 25 30
 Cys Lys Ile Ile Ile Lys Lys Val Ala Tyr Thr Glu Ile Asp Tyr Lys
 35 40 45
 Ala Tyr Met Glu Gln Ile Glu Met Ile Gln Leu Asp Gly Met Leu Asp
 50 55 60
 Tyr Ser Gln Val Ser Gly Gly Thr Gly Pro Leu Val Tyr Pro Ala Gly
 65 70 75 80
 His Val Leu Ile Tyr Lys Met Met Tyr Trp Leu Thr Glu Gly Met Asp
 85 90 95

His	Val	Glu	Arg	Gly	Gln	Val	Phe	Phe	Arg	Tyr	Leu	Tyr	Leu	Leu	Thr	
			100						105						110	
Leu	Ala	Leu	Gln	Met	Ala	Cys	Tyr	Tyr	Leu	Leu	His	Leu	Pro	Pro	Trp	
			115						120						125	
Cys	Val	Val	Leu	Ala	Cys	Leu	Ser	Lys	Arg	Leu	His	Ser	Ile	Tyr	Val	
			130						135						140	
Leu	Arg	Leu	Phe	Asn	Asp	Cys	Phe	Thr	Thr	Leu	Phe	Met	Val	Val	Thr	
145						150						155			160	
Val	Leu	Gly	Ala	Ile	Val	Ala	Ser	Arg	Cys	His	Gln	Arg	Pro	Lys	Leu	
			165						170						175	
Lys	Lys	His	Gln	Thr	Cys	Lys	Val	Pro	Pro	Phe	Val	Phe	Phe	Phe	Met	
			180						185						190	
Cys	Cys	Ala	Ser	Tyr	Arg	Val	His	Ser	Ile	Phe	Val	Leu	Arg	Leu	Phe	
			195						200						205	
Asn	Asp	Pro	Val	Ala	Met	Val	Leu	Leu	Phe	Leu	Ser	Ile	Asn	Leu	Leu	
210						215						220				
Leu	Ala	Gln	Arg	Trp	Gly	Trp	Gly	Ser	Leu	Ala	Leu	Val	Ile	Ser	Ala	
225						230						235			240	
Thr	Tyr	Ser	Met	Ala	Val	Ser	Ile	Lys	Met	Asn	Ala	Leu	Leu	Tyr	Phe	
			245						250						255	
Pro	Ala	Met	Met	Ile	Ser	Leu	Phe	Ile	Leu	Asn	Asp	Ala	Asn	Val	Ile	
			260						265						270	
Leu	Thr	Leu	Leu	Asp	Leu	Val	Ala	Met	Ile	Ala	Trp	Gln	Val	Ala	Val	
			275						280						285	
Ala	Val	Pro	Phe	Leu	Arg	Ser	Phe	Pro	Gln	Gln	Tyr	Leu	His	Cys	Ala	
290						295						300				
Phe	Asn	Phe	Gly	Arg	Lys	Phe	Met	Tyr	Gln	Trp	Ser	Ile	Asn	Trp	Gln	
305						310						315			320	
Met	Met	Asp	Glu	Glu	Ala	Phe	Asn	Asp	Lys	Arg	Phe	Xaa	Xaa	Xaa	Xaa	
			325						330						335	
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Phe	Val	Thr	Arg	Tyr	
			340						345						350	
Pro	Arg	Ile	Leu	Pro	Asp	Leu	Trp	Ser	Ser	Leu	Cys	His	Pro	Leu	Arg	
355						360						365				
Lys	Asn	Ala	Val	Leu	Asn	Ala	Asn	Pro	Ala	Lys	Thr	Ile	Pro	Phe	Val	
370						375						380				
Leu	Ile	Ala	Ser	Asn	Phe	Ile	Gly	Val	Leu	Phe	Ser	Arg	Ser	Leu	His	

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385          390          395          400
Tyr Gln Phe Leu Ser Trp Tyr His Trp Thr Leu Pro Ile Leu Ile Phe
          405          410          415
Trp Ser Gly Met Pro Phe Phe Val Gly Pro Ile Trp Tyr Val Leu His
          420          425          430
Glu Trp Cys Trp Asn Ser Tyr Pro Pro Asn Ser
          435          440

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<210> 27

<211> 373

<212> PRT

<213> Homo sapiens

<400> 27

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Trp Gln Glu Arg Arg Leu Leu Leu Arg Glu Pro Arg Tyr Thr Leu Leu
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Val Ala Ala Cys Leu Cys Leu Ala Glu Val Gly Ile Thr Phe Trp Val
          20          25          30
Ile His Arg Val Ala Tyr Thr Glu Ile Asp Trp Lys Ala Tyr Met Ala
          35          40          45
Glu Val Glu Gly Val Gly Thr Tyr Asp Tyr Thr Gln Leu Gln Gly Asp
          50          55          60
Thr Gly Pro Leu Val Tyr Pro Ala Gly Phe Val Tyr Ile Phe Met Gly
65          70          75          80
Leu Tyr Tyr Ala Thr Ser Arg Gly Thr Asp Ile Arg Met Ala Gln Asn
          85          90          95
Ile Phe Ala Val Leu Tyr Leu Ala Thr Leu Leu Leu Val Phe Leu Ile
          100          105          110
Tyr His Gln Thr Cys Lys Val Pro Pro Phe Val Phe Phe Phe Met Cys
          115          120          125
Cys Ala Ser Tyr Arg Val His Ser Ile Phe Val Leu Arg Leu Phe Asn
          130          135          140
Asp Pro Val Ala Met Val Leu Leu Phe Leu Ser Ile Asn Leu Leu Leu
145          150          155          160
Ala Gln Arg Trp Gly Trp Gly Cys Cys Phe Phe Ser Leu Ala Val Ser
          165          170          175

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Val Lys Met Asn Val Leu Leu Phe Ala Pro Gly Leu Leu Phe Leu Leu
 180 185 190
 Leu Thr Gln Phe Gly Phe Arg Gly Ala Leu Pro Lys Leu Gly Ile Cys
 195 200 205
 Ala Gly Leu Gln Val Val Leu Gly Leu Pro Phe Leu Leu Glu Asn Pro
 210 215 220
 Ser Gly Tyr Leu Ser Arg Ser Phe Asp Leu Gly Arg Gln Phe Leu Phe
 225 230 235 240
 His Trp Thr Val Asn Trp Arg Phe Leu Pro Glu Ala Leu Phe Leu His
 245 250 255
 Arg Ala Phe His Leu Ala Leu Leu Thr Ala His Leu Thr Leu Leu Leu
 260 265 270
 Leu Phe Ala Leu Cys Arg Trp His Arg Thr Gly Glu Ser Ile Leu Ser
 275 280 285
 Leu Leu Arg Asp Pro Ser Lys Arg Lys Val Pro Pro Gln Pro Leu Thr
 290 295 300
 Pro Asn Gln Ile Val Ser Thr Leu Phe Thr Ser Asn Phe Ile Gly Ile
 305 310 315 320
 Cys Phe Ser Arg Ser Leu His Tyr Gln Phe Tyr Val Trp Tyr Phe His
 325 330 335
 Thr Leu Pro Tyr Leu Leu Trp Ala Met Pro Ala Arg Trp Leu Thr His
 340 345 350
 Leu Leu Arg Leu Leu Val Leu Gly Leu Ile Glu Leu Ser Trp Asn Thr
 355 360 365
 Tyr Pro Ser Thr Ser
 370

<210> 28

<211> 269

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 28

Val Arg Tyr Val Ile Phe Asp Cys Arg Ala Asn Leu Ile Val Met Pro
 1 5 10 15
 Leu Leu Ile Leu Phe Glu Ser Met Leu Cys Lys Ile Ile Ile Lys Lys

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Val	Ala	Tyr	Thr	Glu	Ile	Asp	Tyr	Lys	Ala	Tyr	Met	Glu	Gln	Ile	Glu
	35		40		45										
Met	Ile	Gln	Leu	Asp	Gly	Met	Leu	Asp	Tyr	Ser	Gln	Val	Ser	Gly	Gly
	50		55		60										
Thr	Gly	Pro	Leu	Val	Tyr	Pro	Ala	Gly	His	Val	Leu	Ile	Tyr	Lys	Met
65			70		75									80	
Met	Tyr	Trp	Leu	Thr	Glu	Gly	Met	Asp	His	Val	Glu	Arg	Gly	Gln	Val
			85		90									95	
Phe	Phe	Arg	Tyr	Leu	Tyr	Leu	Leu	Thr	Leu	Ala	Leu	Gln	Met	Ala	Cys
			100		105									110	
Tyr	Tyr	Leu	Leu	His	Pro	Trp	Cys	Val	Val	Leu	Ala	Cys	Leu	Ser	Lys
			115		120									125	
Arg	Leu	His	Ser	Ile	Tyr	Val	Leu	Arg	Leu	Phe	Asn	Asp	Cys	Phe	Thr
			130		135									140	
Thr	Leu	Phe	Met	Val	Val	Thr	Val	Leu	Gly	Ala	Ile	Val	Ala	Ser	Arg
145			150		155									160	
Cys	His	Gln	Arg	Pro	Lys	Leu	Lys	Lys	Ser	Leu	Ala	Leu	Val	Ile	Ser
			165		170									175	
Ala	Thr	Tyr	Ser	Met	Ala	Val	Ser	Ile	Lys	Met	Asn	Ala	Leu	Leu	Tyr
			180		185									190	
Phe	Pro	Ala	Met	Met	Ile	Ser	Leu	Phe	Ile	Leu	Asn	Asp	Ala	Asn	Val
			195		200									205	
Ile	Leu	Thr	Leu	Leu	Asp	Leu	Val	Ala	Met	Ile	Ala	Trp	Gln	Val	Ala
			210		215									220	
Val	Ala	Val	Pro	Phe	Leu	Arg	Ser	Phe	Pro	Gln	Gln	Tyr	Leu	His	Cys
225			230		235									240	
Ala	Phe	Asn	Phe	Gly	Arg	Lys	Phe	Met	Tyr	Gln	Trp	Ser	Ile	Asn	Trp
			245		250									255	
Gln	Met	Met	Asp	Glu	Glu	Ala	Phe	Asn	Asp	Lys	Arg	Phe			
			260		265										

<210> 29

<211> 258

<212> PRT

<213> *Drosophila virilis*

<400> 29

Ile	Lys	Tyr	Leu	Ala	Phe	Glu	Pro	Ala	Ala	Leu	Pro	Ile	Val	Ser	Val
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Leu	Ile	Val	Leu	Ala	Glu	Ala	Val	Ile	Asn	Val	Leu	Val	Ile	Gln	Arg
			20					25					30		
Val	Pro	Tyr	Thr	Glu	Ile	Asp	Trp	Lys	Ala	Tyr	Met	Gln	Glu	Cys	Glu
		35					40				45				
Gly	Phe	Leu	Asn	Gly	Thr	Thr	Asn	Tyr	Ser	Leu	Leu	Arg	Gly	Asp	Thr
	50				55					60					
Gly	Pro	Leu	Val	Tyr	Pro	Ala	Ala	Phe	Val	Tyr	Ile	Tyr	Ser	Gly	Leu
65					70					75					80
Tyr	Tyr	Leu	Thr	Gly	Gln	Gly	Thr	Asn	Val	Arg	Leu	Ala	Gln	Tyr	Ile
			85					90					95		
Phe	Ala	Cys	Ile	Tyr	Leu	Leu	Gln	Met	Cys	Leu	Val	Leu	Arg	Leu	Tyr
		100						105					110		
Thr	Lys	Ser	Arg	Lys	Val	Pro	Pro	Tyr	Val	Leu	Val	Leu	Ser	Ala	Phe
		115					120					125			
Thr	Ser	Tyr	Arg	Ile	His	Ser	Ile	Tyr	Val	Leu	Arg	Leu	Phe	Asn	Asp
	130					135					140				
Pro	Val	Ala	Ile	Leu	Leu	Leu	Tyr	Ala	Ala	Leu	Asn	Leu	Phe	Leu	Asp
145					150					155				160	
Gln	Arg	Trp	Thr	Leu	Gly	Ser	Ile	Cys	Tyr	Ser	Leu	Ala	Val	Gly	Val
			165					170					175		
Lys	Met	Asn	Ile	Leu	Leu	Phe	Ala	Pro	Ala	Leu	Leu	Leu	Phe	Tyr	Leu
		180						185					190		
Ala	Asn	Leu	Gly	Val	Leu	Arg	Thr	Leu	Val	Gln	Leu	Thr	Ile	Cys	Ala
		195					200					205			
Val	Leu	Gln	Leu	Phe	Ile	Gly	Ala	Pro	Phe	Leu	Arg	Thr	His	Pro	Met
	210					215					220				
Glu	Tyr	Leu	Arg	Gly	Ser	Phe	Asp	Leu	Gly	Arg	Ile	Phe	Glu	His	Lys
225					230				235				240		
Trp	Thr	Val	Asn	Tyr	Arg	Phe	Leu	Ser	Lys	Glu	Leu	Phe	Glu	Gln	Arg
			245						250				255		
Glu	Phe														

<210> 30

<211> 267

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 30

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Arg Tyr Val Ile Phe Asp Cys Arg Ala Asn Leu Ile Val Met Pro Leu
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Leu Ile Leu Phe Glu Ser Met Leu Cys Lys Ile Ile Ile Lys Lys Val
      20             25             30
Ala Tyr Thr Glu Ile Asp Tyr Lys Ala Tyr Met Glu Gln Ile Glu Met
      35             40             45
Ile Gln Leu Asp Gly Met Leu Asp Tyr Ser Gln Val Ser Gly Gly Thr
      50             55             60
Gly Pro Leu Val Tyr Pro Ala Gly His Val Leu Ile Tyr Lys Met Met
      65             70             75             80
Tyr Trp Leu Thr Glu Gly Met Asp His Val Glu Arg Gly Gln Val Phe
      85             90             95
Phe Arg Tyr Leu Tyr Leu Leu Thr Leu Ala Leu Gln Met Ala Cys Tyr
      100            105            110
Tyr Leu Leu His Trp Cys Val Val Leu Ala Cys Leu Ser Lys Arg Leu
      115            120            125
His Ser Ile Tyr Val Leu Arg Leu Phe Asn Asp Cys Phe Thr Thr Leu
      130            135            140
Phe Met Val Val Thr Val Leu Gly Ala Ile Val Ala Ser Arg Cys His
      145            150            155            160
Gln Arg Pro Lys Leu Lys Lys Ser Leu Ala Leu Val Ile Ser Ala Thr
      165            170            175
Tyr Ser Met Ala Val Ser Ile Lys Met Asn Ala Leu Leu Tyr Phe Pro
      180            185            190
Ala Met Met Ile Ser Leu Phe Ile Leu Asn Asp Ala Asn Val Ile Leu
      195            200            205
Thr Leu Leu Asp Leu Val Ala Met Ile Ala Trp Gln Val Ala Val Ala
      210            215            220
Val Pro Phe Leu Arg Ser Phe Pro Gln Gln Tyr Leu His Cys Ala Phe
      225            230            235            240

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Asn Phe Gly Arg Lys Phe Met Tyr Gln Trp Ser Ile Asn Trp Gln Met
 245 250 255

Met Asp Glu Glu Ala Phe Asn Asp Lys Arg Phe
 260 265

<210> 31

<211> 257

<212> PRT

<213> *Drosophila melanogaster*

<400> 31

Lys Tyr Leu Leu Leu Glu Pro Ala Ala Leu Pro Ile Val Gly Leu Phe
 1 5 10 15

Val Leu Leu Ala Glu Leu Val Ile Asn Val Val Val Ile Gln Arg Val
 20 25 30

Pro Tyr Thr Glu Ile Asp Trp Val Ala Tyr Met Gln Glu Cys Glu Gly
 35 40 45

Phe Leu Asn Gly Thr Thr Asn Tyr Ser Leu Leu Arg Gly Asp Thr Gly
 50 55 60

Pro Leu Val Tyr Pro Ala Ala Phe Val Tyr Ile Tyr Ser Ala Leu Tyr
 65 70 75 80

Tyr Val Thr Ser His Gly Thr Asn Val Arg Leu Ala Gln Tyr Ile Phe
 85 90 95

Ala Gly Ile Tyr Leu Leu Gln Leu Ala Leu Val Leu Arg Leu Tyr Ser
 100 105 110

Lys Ser Arg Lys Val Pro Pro Tyr Val Leu Val Leu Ser Ala Phe Thr
 115 120 125

Ser Tyr Arg Ile His Ser Ile Tyr Val Leu Arg Leu Phe Asn Asp Pro
 130 135 140

Val Ala Val Leu Leu Leu Tyr Ala Ala Leu Asn Leu Phe Leu Asp Arg
 145 150 155 160

Arg Trp Thr Leu Gly Ser Thr Phe Phe Ser Leu Ala Val Gly Val Lys
 165 170 175

Met Asn Ile Leu Leu Phe Ala Pro Ala Leu Leu Leu Phe Tyr Leu Ala
 180 185 190

Asn Leu Gly Leu Leu Arg Thr Ile Leu Gln Leu Ala Val Cys Gly Val

195	200	205
Ile Gln Leu Leu Leu Gly Ala Pro Phe Leu Leu Thr His Pro Val Glu		
210	215	220
Tyr Leu Arg Gly Ser Phe Asp Leu Gly Arg Ile Phe Glu His Lys Trp		
225	230	235
Thr Val Asn Tyr Arg Phe Leu Ser Arg Asp Val Phe Glu Asn Arg Thr		
245	250	255
Phe		

<210> 32

<211> 1377

<212> DNA

<213> *Saccharomyces cerevisiae*

<400> 32

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agggccaatc ttatcgttat gccccttttg attttgttcg aaagcatgct gtgcaagatt 180
atcattaaga aggtagctta cacagagatc gattacaagg cgtacatgga gcagatcgag 240
atgattcagc tcgatggcat gctggactac tctcaggtga gtggtggaac gggcccgtg 300
gtgtatccag caggccacgt cttgatctac aagatgatgt actggctaac agagggaaatg 360
gaccacgttg agcgcgggca agtgtttttc agatacttgt atctccttac actggcggtta 420
caaatggcgt gttactacct ttacatctta ccaccgtggg gtgtgggtctt ggcgtgcctc 480
tctaaaagat tgcactctat ttacgtgcta cggttattca atgattgctt cactactttg 540
tttatggctg tcacggtttt gggggctatc gtggccagca ggtgccatca gcgccccaaa 600
ttaaagaagt cccttgcgct ggtgatctcc gcaacatata gtatggctgt gagcattaag 660
atgaatgcgc tgttgtatth ccctgcaatg atgatttctc tattcatcct taatgacgcg 720
aacgtaatcc ttactttggt ggatctcggt gcgatgattg catggcaagt cgcagttgca 780
gtgcccttcc tgcgcagctt tccgcaacag tacctgcatt gcgcttttaa tttcggcagg 840
aagtttatgt accaatggag tatcaattgg caaatgatgg atgaagaggc tttcaatgat 900
aagaggttcc acttgccctt tttaatcagc cacctgatag cgctcaccac actgttcgtc 960
acaagatacc ctgcacacct gcccgattta tggctctccc tgtgccatcc gctgaggaaa 1020
aatgcagtgc tcaatgcaa tcccgcgaag actattccat tcgtttctaat cgcacccaac 1080
ttcatcggcg tctatcttcc aaggtccctc cactaccagt ttctatcctg gtatcactgg 1140
actttgccta tactgatctt ttggtcggga atgcccttct tcgttggtcc catttggtac 1200

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gtcttgcacg agtgggtgctg gaattcctat ccaccaaact cacaagcaag cacgctattg 1260
 ttggcattga atactgttct gttgcttcta ttggccttga cgcagctatc tggttcggtc 1320
 gccctcgcca aaagccatct tcgtaccacc agctctatgg aaaaaaagct caactga 1377

<210> 33

<211> 458

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 33

Met	Glu	Gly	Glu	Gln	Ser	Pro	Gln	Gly	Glu	Lys	Ser	Leu	Gln	Arg	Lys
1				5					10					15	
Gln	Phe	Val	Arg	Pro	Pro	Leu	Asp	Leu	Trp	Gln	Asp	Leu	Lys	Asp	Gly
			20					25					30		
Val	Arg	Tyr	Val	Ile	Phe	Asp	Cys	Arg	Ala	Asn	Leu	Ile	Val	Met	Pro
	35					40					45				
Leu	Leu	Ile	Leu	Phe	Glu	Ser	Met	Leu	Cys	Lys	Ile	Ile	Ile	Lys	Lys
	50					55					60				
Val	Ala	Tyr	Thr	Glu	Ile	Asp	Tyr	Lys	Ala	Tyr	Met	Glu	Gln	Ile	Glu
65				70				75						80	
Met	Ile	Gln	Leu	Asp	Gly	Met	Leu	Asp	Tyr	Ser	Gln	Val	Ser	Gly	Gly
			85					90						95	
Thr	Gly	Pro	Leu	Val	Tyr	Pro	Ala	Gly	His	Val	Leu	Ile	Tyr	Lys	Met
			100					105						110	
Met	Tyr	Trp	Leu	Thr	Glu	Gly	Met	Asp	His	Val	Glu	Arg	Gly	Gln	Val
	115						120					125			
Phe	Phe	Arg	Tyr	Leu	Tyr	Leu	Leu	Thr	Leu	Ala	Leu	Gln	Met	Ala	Cys
	130					135					140				
Tyr	Tyr	Leu	Leu	His	Leu	Pro	Pro	Trp	Cys	Val	Val	Leu	Ala	Cys	Leu
145				150					155					160	
Ser	Lys	Arg	Leu	His	Ser	Ile	Tyr	Val	Leu	Arg	Leu	Phe	Asn	Asp	Cys
			165					170						175	
Phe	Thr	Thr	Leu	Phe	Met	Val	Val	Thr	Val	Leu	Gly	Ala	Ile	Val	Ala
			180					185					190		
Ser	Arg	Cys	His	Gln	Arg	Pro	Lys	Leu	Lys	Lys	Ser	Leu	Ala	Leu	Val
	195						200					205			
Ile	Ser	Ala	Thr	Tyr	Ser	Met	Ala	Val	Ser	Ile	Lys	Met	Asn	Ala	Leu

210	215	220
Leu Tyr Phe Pro Ala Met Met Ile Ser Leu Phe Ile Leu Asn Asp Ala		
225	230	235
Asn Val Ile Leu Thr Leu Leu Asp Leu Val Ala Met Ile Ala Trp Gln		240
	245	250
Val Ala Val Ala Val Pro Phe Leu Arg Ser Phe Pro Gln Gln Tyr Leu		255
	260	265
His Cys Ala Phe Asn Phe Gly Arg Lys Phe Met Tyr Gln Trp Ser Ile		270
	275	280
Asn Trp Gln Met Met Asp Glu Glu Ala Phe Asn Asp Lys Arg Phe His		285
	290	300
Leu Ala Leu Leu Ile Ser His Leu Ile Ala Leu Thr Thr Leu Phe Val		
305	310	315
Thr Arg Tyr Pro Arg Ile Leu Pro Asp Leu Trp Ser Ser Leu Cys His		320
	325	330
Pro Leu Arg Lys Asn Ala Val Leu Asn Ala Asn Pro Ala Lys Thr Ile		335
	340	345
Pro Phe Val Leu Ile Ala Ser Asn Phe Ile Gly Val Leu Phe Ser Arg		350
	355	360
Ser Leu His Tyr Gln Phe Leu Ser Trp Tyr His Trp Thr Leu Pro Ile		365
	370	375
Leu Ile Phe Trp Ser Gly Met Pro Phe Phe Val Gly Pro Ile Trp Tyr		380
385	390	395
Val Leu His Glu Trp Cys Trp Asn Ser Tyr Pro Pro Asn Ser Gln Ala		400
	405	410
Ser Thr Leu Leu Leu Ala Leu Asn Thr Val Leu Leu Leu Leu Ala		415
	420	425
Leu Thr Gln Leu Ser Gly Ser Val Ala Leu Ala Lys Ser His Leu Arg		430
	435	440
Thr Thr Ser Ser Met Glu Lys Lys Leu Asn		445
450	455	

<210> 34

<211> 1395

<212> DNA

<213> Pichia pastoris

<400> 34

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atgcctccga tagagccagc tgaaaggcca aagcttacgc tgaaaaatgt tatcggtgat 60
ctagtggctc ttattcaaaa cgttttatct aaccagatt ttagtgtctt cgttgacact 120
cttttatggg tagctgattc cattgttatt aaggtgatca ttggcactgt ttctacaca 180
gatattgatt tttcttcata tatgcaacaa atctttaaaa ttcgacaagg agaattagat 240
tatagcaaca tatttggtga caccggtcca ttggtttacc cagccggcca tgttcatgct 300
tactcagtac tttcgtggta cagtgatggg ggagaagacg tcagtttcgt tcaacaagca 360
tttggttggt tatacctagg ttgcttggtt ctatccatca gctcctactt tttctctggc 420
ttagggaaaa tacctccggt ttattttggt ttggtggttag cgtccaagag actgcattca 480
atatattgat tgagactctt caatgactgt ttaacaacat ttttgatggt ggcaactata 540
atcatccttc aacaagcaag tagctggagg aaagatggca caactattcc attatctgtc 600
cctgatgctg cagatacgta cagtttagcc atctctgtaa agatgaatgc gctgctatac 660
ctcccagcat tcctactact catatatctc atttgtgacg aaaatttgat taaagccttg 720
gcacctgttc tagttttgat attggtgcaa gtaggagtcg gttattcgtt cattttaccg 780
ttgcactatg atgacagggc aaatgaaatt cgttctgcct actttagaca ggcttttgac 840
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ttcaacaatg tccattttca ccagctcctg tttgctctcc atattattac gttagtcttg 960
ttcatcctca agttcctctc tcctaaaaac attggaaaac cgcttggttag atttgtgttg 1020
gacattttca aattttggaa gccaacctta tctccaacca atattatcaa cgaccagaa 1080
agaagcccag attttggtta caccgtcatg gctactacca acttaatagg ggtgcttttt 1140
gcaagatctt tacactacca gttcctaagc tggatatgct tctctttgcc atatctcctt 1200
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tggttggttt tcccagctac agaacaaagt tccgcgttgt tggatatctat ctactactt 1320
atcctgattc tcattttttac caacgaacag ttatttcctt ctcaatcggg ccctgcagaa 1380
aaaaagaata cataa 1395

```

<210> 35

<211> 464

<212> PRT

<213> *Pichia pastoris*

<400> 35

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Met Pro Pro Ile Glu Pro Ala Glu Arg Pro Lys Leu Thr Leu Lys Asn
  1             5             10             15
Val Ile Gly Asp Leu Val Ala Leu Ile Gln Asn Val Leu Phe Asn Pro
      20             25             30

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- 24 -


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          325              330              335
Arg Phe Val Leu Asp Ile Phe Lys Phe Trp Lys Pro Thr Leu Ser Pro
          340              345              350
Thr Asn Ile Ile Asn Asp Pro Glu Arg Ser Pro Asp Phe Val Tyr Thr
          355              360              365
Val Met Ala Thr Thr Asn Leu Ile Gly Val Leu Phe Ala Arg Ser Leu
          370              375              380
His Tyr Gln Phe Leu Ser Trp Tyr Ala Phe Ser Leu Pro Tyr Leu Leu
385              390              395              400
Tyr Lys Ala Arg Leu Asn Phe Ile Ala Ser Ile Ile Val Tyr Ala Ala
          405              410              415
His Glu Tyr Cys Trp Leu Val Phe Pro Ala Thr Glu Gln Ser Ser Ala
          420              425              430
Leu Leu Val Ser Ile Leu Leu Leu Ile Leu Ile Leu Ile Phe Thr Asn
          435              440              445
Glu Gln Leu Phe Pro Ser Gln Ser Val Pro Ala Glu Lys Lys Asn Thr
          450              455              460

```

<210> 36

<211> 418

<212> PRT

<213> *Pichia pastoris*

<220>

<221> MOD_RES

<222> (209)...(223)

<223> Variable amino acid

<220>

<221> MOD_RES

<222> (235)...(246)

<223> Variable amino acid

<400> 36

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Arg Pro Lys Leu Thr Leu Lys Asn Val Ile Gly Asp Leu Val Ala Leu
 1              5              10              15

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- 26 -

```

305          310          315          320
Lys Asn Ile Gly Lys Pro Leu Gly Arg Phe Val Leu Asp Ile Phe Lys
          325          330          335
Phe Trp Lys Pro Thr Leu Ser Pro Thr Asn Ile Ile Asn Pro Asp Phe
          340          345          350
Val Tyr Thr Val Met Ala Thr Thr Asn Leu Ile Gly Val Leu Phe Ala
          355          360          365
Arg Ser Leu His Tyr Gln Phe Leu Ser Trp Tyr Ala Phe Ser Leu Pro
          370          375          380
Tyr Leu Leu Tyr Lys Ala Arg Leu Asn Phe Ile Ala Ser Ile Ile Val
385          390          395          400
Tyr Ala Ala His Glu Tyr Cys Trp Leu Val Phe Pro Ala Thr Glu Gln
          405          410          415
Ser Ser

```

<210> 37

<211> 398

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 37

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Arg Pro Pro Leu Asp Leu Trp Gln Asp Leu Lys Asp Gly Val Arg Tyr
1          5          10          15
Val Ile Phe Asp Cys Arg Ala Asn Leu Ile Val Met Pro Leu Leu Ile
          20          25          30
Leu Phe Glu Ser Met Leu Cys Lys Ile Ile Ile Lys Lys Val Ala Tyr
          35          40          45
Thr Glu Ile Asp Tyr Lys Ala Tyr Met Glu Gln Ile Glu Met Ile Gln
          50          55          60
Leu Asp Gly Met Leu Asp Tyr Ser Gln Val Ser Gly Gly Thr Gly Pro
65          70          75          80
Leu Val Tyr Pro Ala Gly His Val Leu Ile Tyr Lys Met Met Tyr Trp
          85          90          95
Leu Thr Glu Gly Met Asp His Val Glu Arg Gly Gln Val Phe Phe Arg
          100          105          110

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```

Tyr Leu Tyr Leu Leu Thr Leu Ala Leu Gln Met Ala Cys Tyr Tyr Leu
      115                      120                      125
Leu His Leu Pro Pro Trp Cys Val Val Leu Ala Cys Leu Ser Lys Arg
      130                      135                      140
Leu His Ser Ile Tyr Val Leu Arg Leu Phe Asn Asp Cys Phe Thr Thr
      145                      150                      155                      160
Leu Phe Met Val Val Thr Val Leu Gly Ala Ile Val Ala Ser Arg Cys
                      165                      170                      175
His Gln Arg Pro Lys Leu Lys Lys Ser Leu Ala Leu Val Ile Ser Ala
      180                      185                      190
Thr Tyr Ser Met Ala Val Ser Ile Lys Met Asn Ala Leu Leu Tyr Phe
      195                      200                      205
Pro Ala Met Met Ile Ser Leu Phe Ile Leu Asn Asp Ala Asn Val Ile
      210                      215                      220
Leu Thr Leu Leu Asp Leu Val Ala Met Ile Ala Trp Gln Val Ala Val
      225                      230                      235                      240
Ala Val Pro Phe Leu Arg Ser Phe Pro Gln Gln Tyr Leu His Cys Ala
                      245                      250                      255
Phe Asn Phe Gly Arg Lys Phe Met Tyr Gln Trp Ser Ile Asn Trp Gln
      260                      265                      270
Met Met Asp Glu Glu Ala Phe Asn Asp Lys Arg Phe His Leu Ala Leu
      275                      280                      285
Leu Ile Ser His Leu Ile Ala Leu Thr Thr Leu Phe Val Thr Arg Tyr
      290                      295                      300
Pro Arg Ile Leu Pro Asp Leu Trp Ser Ser Leu Cys His Pro Leu Arg
      305                      310                      315                      320
Lys Asn Ala Val Leu Asn Ala Asn Pro Ala Lys Thr Ile Pro Phe Val
                      325                      330                      335
Leu Ile Ala Ser Asn Phe Ile Gly Val Leu Phe Ser Arg Ser Leu His
      340                      345                      350
Tyr Gln Phe Leu Ser Trp Tyr His Trp Thr Leu Pro Ile Leu Ile Phe
      355                      360                      365
Trp Ser Gly Met Pro Phe Phe Val Gly Pro Ile Trp Tyr Val Leu His
      370                      375                      380
Glu Trp Cys Trp Asn Ser Tyr Pro Pro Asn Ser Gln Ala Ser
      385                      390                      395

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<210> 38
 <211> 387
 <212> PRT
 <213> *Pichia pastoris*

<220>
 <221> MOD_RES
 <222> (183)...(197)
 <223> Variable amino acid

<220>
 <221> MOD_RES
 <222> (209)...(220)
 <223> Variable amino acid

<400> 38
 Ser Val Phe Val Ala Pro Leu Leu Trp Leu Ala Asp Ser Ile Val Ile
 1 5 10 15
 Lys Val Ile Ile Gly Thr Val Ser Tyr Thr Asp Ile Asp Phe Ser Ser
 20 25 30
 Tyr Met Gln Gln Ile Phe Lys Ile Arg Gln Gly Glu Leu Asp Tyr Ser
 35 40 45
 Asn Ile Phe Gly Asp Thr Gly Pro Leu Val Tyr Pro Ala Gly His Val
 50 55 60
 His Ala Tyr Ser Val Leu Ser Trp Tyr Ser Asp Gly Gly Glu Asp Val
 65 70 75 80
 Ser Phe Val Gln Gln Ala Phe Gly Trp Leu Tyr Leu Gly Cys Leu Leu
 85 90 95
 Leu Ser Ile Ser Ser Tyr Phe Phe Ser Gly Leu Gly Lys Ile Pro Pro
 100 105 110
 Val Tyr Phe Val Leu Leu Val Ala Ser Lys Arg Leu His Ser Ile Phe
 115 120 125
 Val Leu Arg Leu Phe Asn Asp Cys Leu Thr Thr Phe Leu Met Leu Ala
 130 135 140
 Thr Ile Ile Ile Leu Gln Gln Ala Ser Ser Trp Arg Lys Asp Gly Thr
 145 150 155 160

Thr Ile Pro Leu Ser Val Pro Asp Ala Ala Asp Thr Tyr Ser Leu Ala
 165 170 175
 Ile Ser Val Lys Met Asn Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 180 185 190
 Xaa Xaa Xaa Xaa Xaa Cys Asp Glu Asn Leu Ile Lys Ala Leu Ala Pro
 195 200 205
 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Tyr Ser Phe Ile
 210 215 220
 Leu Pro Leu His Tyr Asp Asp Gln Ala Asn Glu Ile Arg Ser Ala Tyr
 225 230 235 240
 Phe Arg Gln Ala Phe Asp Phe Ser Arg Gln Phe Leu Tyr Lys Trp Thr
 245 250 255
 Val Asn Trp Arg Phe Leu Ser Gln Glu Thr Phe Asn Asn Val His Phe
 260 265 270
 His Gln Leu Leu Phe Ala Leu His Ile Ile Thr Leu Val Leu Phe Ile
 275 280 285
 Pro Leu Gly Arg Phe Val Leu Asp Ile Phe Lys Phe Trp Lys Pro Thr
 290 295 300
 Leu Ser Pro Thr Asn Ile Ile Asn Asp Pro Glu Arg Ser Pro Asp Phe
 305 310 315 320
 Val Tyr Thr Val Met Ala Thr Thr Asn Leu Ile Gly Val Leu Phe Ala
 325 330 335
 Arg Ser Leu His Tyr Gln Phe Leu Ser Trp Tyr Ala Phe Ser Leu Pro
 340 345 350
 Tyr Leu Leu Tyr Lys Ala Arg Leu Asn Phe Ile Ala Ser Ile Ile Val
 355 360 365
 Tyr Ala Ala His Glu Tyr Cys Trp Leu Val Phe Pro Ala Thr Glu Gln
 370 375 380
 Ser Ser Ala
 385

<210> 39

<211> 373

<212> PRT

<213> Neurospora crassa

<400> 39

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Ser Lys Leu Ile Pro Pro Ala Leu Phe Leu Val Asp Ala Leu Leu Cys
 1           5           10           15
Gly Leu Ile Ile Trp Lys Val Pro Tyr Thr Glu Ile Asp Trp Ala Ala
          20           25           30
Tyr Met Glu Gln Val Ser Gln Ile Leu Ser Gly Glu Arg Asp Tyr Thr
          35           40           45
Lys Val Arg Gly Gly Thr Gly Pro Leu Val Tyr Pro Ala Ala His Val
          50           55           60
Tyr Ile Tyr Thr Gly Leu Tyr His Leu Thr Asp Glu Gly Arg Asn Ile
65           70           75           80
Leu Leu Ala Gln Gln Leu Phe Ala Gly Leu Tyr Met Val Thr Leu Ala
          85           90           95
Val Val Met Gly Cys Tyr Trp Gln Ala Lys Ala Pro Pro Tyr Leu Phe
          100          105          110
Pro Leu Leu Thr Leu Ser Lys Arg Leu His Ser Ile Phe Val Leu Arg
          115          120          125
Cys Phe Asn Asp Cys Phe Ala Val Leu Phe Leu Trp Leu Ala Ile Phe
          130          135          140
Phe Phe Gln Arg Arg Asn Trp Gln Ala Gly Ala Leu Leu Tyr Thr Leu
145          150          155          160
Gly Leu Gly Val Lys Met Thr Leu Leu Leu Ser Leu Pro Ala Val Gly
          165          170          175
Ile Val Leu Phe Leu Gly Ser Gly Ser Phe Val Thr Thr Leu Gln Leu
          180          185          190
Val Ala Thr Met Gly Leu Val Gln Ile Leu Ile Gly Val Pro Phe Leu
          195          200          205
Ala His Tyr Pro Thr Glu Tyr Leu Ser Arg Ala Phe Glu Leu Ser Arg
          210          215          220
Gln Phe Phe Phe Lys Trp Thr Val Asn Trp Arg Phe Val Gly Glu Glu
225          230          235          240
Ile Phe Leu Ser Lys Gly Phe Ala Leu Thr Leu Leu Ala Leu His Val
          245          250          255
Leu Val Leu Gly Ile Phe Ile Thr Thr Arg Trp Ile Lys Pro Ala Arg
          260          265          270
Lys Ser Leu Val Gln Leu Ile Ser Pro Val Leu Leu Ala Gly Lys Pro
          275          280          285

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```

Pro Leu Thr Val Pro Glu His Arg Ala Ala Ala Arg Asp Val Thr Pro
 290                      295                      300
Arg Tyr Ile Met Thr Thr Ile Leu Ser Ala Asn Ala Val Gly Leu Leu
305                      310                      315                      320
Phe Ala Arg Ser Leu His Tyr Gln Phe Tyr Ala Tyr Val Ala Trp Ser
                      325                      330                      335
Thr Pro Phe Leu Leu Trp Arg Ala Gly Leu His Pro Val Leu Val Tyr
                      340                      345                      350
Leu Leu Trp Ala Val His Glu Trp Ala Trp Asn Val Phe Pro Ser Thr
                      355                      360                      365
Pro Ala Ser Ser Ala
 370

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<210> 40

<211> 374

<212> PRT

<213> *Pichia pastoris*

<220>

<221> MOD_RES

<222> (176)...(190)

<223> Variable amino acid

<220>

<221> MOD_RES

<222> (202)...(213)

<223> Variable amino acid

<400> 40

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Ser Tyr Thr Asp Ile Asp Phe Ser Ser Tyr Met Gln Gln Ile Phe Lys
 1                      5                      10                      15
Ile Arg Gln Gly Glu Leu Asp Tyr Ser Asn Ile Phe Gly Asp Thr Gly
                      20                      25                      30
Pro Leu Val Tyr Pro Ala Gly His Val His Ala Tyr Ser Val Leu Ser
                      35                      40                      45
Trp Tyr Ser Asp Gly Gly Glu Asp Val Ser Phe Val Gln Gln Ala Phe

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50		55		60
Gly Trp Leu Tyr Leu Gly Cys Leu Leu Leu Ser Ile Ser Ser Tyr Phe				
65		70		75
Phe Ser Gly Leu Gly Lys Ile Pro Pro Val Tyr Phe Val Leu Leu Val				80
	85		90	95
Ala Ser Lys Arg Leu His Ser Ile Phe Val Leu Arg Leu Phe Asn Asp				
	100		105	110
Cys Leu Thr Thr Phe Leu Met Leu Ala Thr Ile Ile Ile Leu Gln Gln				
	115		120	125
Ala Ser Ser Trp Arg Lys Asp Gly Thr Thr Ile Pro Leu Ser Val Pro				
	130		135	140
Asp Ala Ala Asp Thr Tyr Ser Leu Ala Ile Ser Val Lys Met Asn Xaa				
145		150		155
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Asp				160
	165		170	175
Glu Asn Leu Ile Lys Ala Leu Ala Pro Xaa Xaa Xaa Xaa Xaa Xaa Xaa				
	180		185	190
Xaa Xaa Xaa Xaa Xaa Tyr Ser Phe Ile Leu Pro Leu His Tyr Asp Asp				
	195		200	205
Gln Ala Asn Glu Ile Arg Ser Ala Tyr Phe Arg Gln Ala Phe Asp Phe				
	210		215	220
Ser Arg Gln Phe Leu Tyr Lys Trp Thr Val Asn Trp Arg Phe Leu Ser				
225		230		235
Gln Glu Thr Phe Asn Asn Val His Phe His Gln Leu Leu Phe Ala Leu				
	245		250	255
His Ile Ile Thr Leu Val Leu Phe Ile Leu Lys Phe Leu Ser Pro Lys				
	260		265	270
Asn Ile Gly Lys Pro Leu Gly Arg Phe Val Leu Asp Ile Phe Lys Phe				
	275		280	285
Trp Lys Pro Thr Leu Ser Pro Thr Asn Ile Ile Asn Asp Pro Glu Arg				
	290		295	300
Ser Pro Asp Phe Val Tyr Thr Val Met Ala Thr Thr Asn Leu Ile Gly				
305		310		315
Val Leu Phe Ala Arg Ser Leu His Tyr Gln Phe Leu Ser Trp Tyr Ala				
	325		330	335
Phe Ser Leu Pro Tyr Leu Leu Tyr Lys Ala Arg Leu Asn Phe Ile Ala				
	340		345	350

Ser Ile Ile Val Tyr Ala Ala His Glu Tyr Cys Trp Leu Val Phe Pro
 355 360 365
 Ala Thr Glu Gln Ser Ser
 370

<210> 41

<211> 355

<212> PRT

<213> Schizosaccharomyces pombe

<400> 41

Leu Leu Leu Leu Glu Ile Pro Phe Val Phe Ala Ile Ile Ser Lys Val
 1 5 10 15
 Pro Tyr Thr Glu Ile Asp Trp Ile Ala Tyr Met Glu Gln Val Asn Ser
 20 25 30
 Phe Leu Leu Gly Glu Arg Asp Tyr Lys Ser Leu Val Gly Cys Thr Gly
 35 40 45
 Pro Leu Val Tyr Pro Gly Gly His Val Phe Leu Tyr Thr Leu Leu Tyr
 50 55 60
 Tyr Leu Thr Asp Gly Gly Thr Asn Ile Val Arg Ala Gln Tyr Ile Phe
 65 70 75 80
 Ala Phe Val Tyr Trp Ile Thr Thr Ala Ile Val Gly Tyr Leu Phe Lys
 85 90 95
 Ile Val Arg Ala Pro Phe Tyr Ile Tyr Val Leu Leu Ile Leu Ser Lys
 100 105 110
 Arg Leu His Ser Ile Phe Ile Leu Arg Leu Phe Asn Asp Gly Phe Asn
 115 120 125
 Ser Leu Phe Ser Ser Leu Phe Ile Leu Ser Ser Cys Lys Lys Lys Trp
 130 135 140
 Val Arg Ala Ser Ile Leu Leu Ser Val Ala Cys Ser Val Lys Met Ser
 145 150 155 160
 Ser Leu Leu Tyr Val Pro Ala Tyr Leu Val Leu Leu Leu Gln Ile Leu
 165 170 175
 Gly Pro Lys Lys Thr Trp Met His Ile Phe Val Ile Ile Ile Val Gln
 180 185 190
 Ile Leu Phe Ser Ile Pro Phe Leu Ala Tyr Phe Trp Ser Tyr Trp Thr

195	200	205
Gln Ala Phe Asp Phe Gly Arg Ala Phe Asp Tyr Lys Trp Thr Val Asn		
210	215	220
Trp Arg Phe Ile Pro Arg Ser Ile Phe Glu Ser Thr Ser Phe Ser Thr		
225	230	235
Ser Ile Leu Phe Leu His Val Ala Leu Leu Val Ala Phe Thr Cys Lys		
245	250	255
His Trp Asn Lys Leu Ser Arg Ala Thr Pro Phe Ala Met Val Asn Ser		
260	265	270
Met Leu Thr Leu Lys Pro Leu Pro Lys Leu Gln Leu Ala Thr Pro Asn		
275	280	285
Phe Ile Phe Thr Ala Leu Ala Thr Ser Asn Leu Ile Gly Ile Leu Cys		
290	295	300
Ala Arg Ser Leu His Tyr Gln Phe Tyr Ala Trp Phe Ala Trp Tyr Ser		
305	310	315
Pro Tyr Leu Cys Tyr Gln Ala Ser Phe Pro Ala Pro Ile Val Ile Gly		
325	330	335
Leu Trp Met Leu Gln Glu Tyr Ala Trp Asn Val Phe Pro Ser Thr Lys		
340	345	350
Leu Ser Ser		
355		

<210> 42

<211> 390

<212> PRT

<213> *Pichia pastoris*

<220>

<221> MOD_RES

<222> (176)...(190)

<223> Variable amino acid

<220>

<221> MOD_RES

<222> (202)...(213)

<223> Variable amino acid

<400> 42

Leu Trp Leu Ala Asp Ser Ile Val Ile Lys Val Ile Ile Gly Thr Val
 1 5 10 15
 Ser Tyr Thr Asp Ile Asp Phe Ser Ser Tyr Met Gln Gln Ile Phe Lys
 20 25 30
 Ile Arg Gln Gly Glu Leu Asp Tyr Ser Asn Ile Phe Gly Asp Thr Gly
 35 40 45
 Pro Leu Val Tyr Pro Ala Gly His Val His Ala Tyr Ser Val Leu Ser
 50 55 60
 Trp Tyr Ser Asp Gly Gly Glu Asp Val Ser Phe Val Gln Gln Ala Phe
 65 70 75 80
 Gly Trp Leu Tyr Leu Gly Cys Leu Leu Leu Ser Ile Ser Ser Tyr Phe
 85 90 95
 Phe Ser Gly Leu Gly Lys Ile Pro Pro Val Tyr Phe Val Leu Leu Val
 100 105 110
 Ala Ser Lys Arg Leu His Ser Ile Phe Val Leu Arg Leu Phe Asn Asp
 115 120 125
 Cys Leu Thr Thr Phe Leu Met Leu Ala Thr Ile Ile Ile Leu Gln Gln
 130 135 140
 Ala Ser Ser Trp Arg Lys Asp Gly Thr Thr Ile Pro Leu Ser Val Pro
 145 150 155 160
 Asp Ala Ala Asp Thr Tyr Ser Leu Ala Ile Ser Val Lys Met Asn Xaa
 165 170 175
 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Asp
 180 185 190
 Glu Asn Leu Ile Lys Ala Leu Ala Pro Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 195 200 205
 Xaa Xaa Xaa Xaa Xaa Tyr Ser Phe Ile Leu Pro Leu His Tyr Asp Asp
 210 215 220
 Gln Ala Asn Glu Ile Arg Ser Ala Tyr Phe Arg Gln Ala Phe Asp Phe
 225 230 235 240
 Ser Arg Gln Phe Leu Tyr Lys Trp Thr Val Asn Trp Arg Phe Leu Ser
 245 250 255
 Gln Glu Thr Phe Asn Asn Val His Phe His Gln Leu Leu Phe Ala Leu
 260 265 270
 His Ile Ile Thr Leu Val Leu Phe Ile Leu Lys Phe Leu Ser Pro Lys

275	280	285
Asn Ile Gly Lys Pro Leu Gly Arg Phe Val Leu Asp Ile Phe Lys Phe		
290	295	300
Trp Lys Pro Thr Leu Ser Pro Thr Asn Ile Ile Asn Asp Pro Glu Arg		
305	310	315
Ser Pro Asp Phe Val Tyr Thr Val Met Ala Thr Thr Asn Leu Ile Gly		
325	330	335
Val Leu Phe Ala Arg Ser Leu His Tyr Gln Phe Leu Ser Trp Tyr Ala		
340	345	350
Phe Ser Leu Pro Tyr Leu Leu Tyr Lys Ala Arg Leu Asn Phe Ile Ala		
355	360	365
Ser Ile Ile Val Tyr Ala Ala His Glu Tyr Cys Trp Leu Val Phe Pro		
370	375	380
Ala Thr Glu Gln Ser Ser		
385	390	

<210> 43

<211> 363

<212> PRT

<213> Arabidopsis thaliana

<400> 43

Leu Ile Leu Ala Asp Ala Ile Leu Val Ala Leu Ile Ile Ala Tyr Val		
1	5	10
Pro Tyr Thr Lys Ile Asp Trp Asp Ala Tyr Met Ser Gln Val Ser Gly		
20	25	30
Phe Leu Gly Gly Glu Arg Asp Tyr Gly Asn Leu Lys Gly Asp Thr Gly		
35	40	45
Pro Leu Val Tyr Pro Ala Gly Phe Leu Tyr Val Tyr Ser Ala Val Gln		
50	55	60
Asn Leu Thr Gly Gly Glu Val Tyr Pro Ala Gln Ile Leu Phe Gly Val		
65	70	75
Leu Tyr Ile Val Asn Leu Gly Ile Val Leu Ile Ile Tyr Val Lys Thr		
85	90	95
Asp Val Val Pro Trp Trp Ala Leu Ser Leu Leu Cys Leu Ser Lys Arg		
100	105	110

- 38 -

<213> *Kluveromyces lactis*

<400> 44

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tttgtttaca agctgatacc aacgaacatg aatacacccg caggtttact gaagattggc 60
aaagctaacc ttttacatcc ttttaccgat gctgtattca gtgcatgag agtaaacgca 120
gaacaaattg catacatttt acttggttacc aattacattg gagtactatt tgctcgatca 180
ttacactacc aattcctatc ttggtaccat tggacgttac cagtactatt gaattgggcc 240
aatgttccgt atccgctatg tgtgctatgg tacctaacac atgagtgggtg ctggaacagc 300
tatccgccaa acgctactgc atccacactg ctacacgcgt gtaacacata ctgttattgg 360
ctgtattctt aagaggaccc gcaaactcga aaagtgggtga taacgaaaca acacacgaga 420
aagctgag                                         428

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<210> 45

<211> 141

<212> PRT

<213> *Kluveromyces lactis*

<400> 45

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Phe Val Tyr Lys Leu Ile Pro Thr Asn Met Asn Thr Pro Ala Gly Leu
 1              5              10              15
Leu Lys Ile Gly Lys Ala Asn Leu Leu His Pro Phe Thr Asp Ala Val
      20              25              30
Phe Ser Ala Met Arg Val Asn Ala Glu Gln Ile Ala Tyr Ile Leu Leu
      35              40              45
Val Thr Asn Tyr Ile Gly Val Leu Phe Ala Arg Ser Leu His Tyr Gln
      50              55              60
Phe Leu Ser Trp Tyr His Trp Thr Leu Pro Val Leu Leu Asn Trp Ala
65              70              75              80
Asn Val Pro Tyr Pro Leu Cys Val Leu Trp Tyr Leu Thr His Glu Trp
      85              90              95
Cys Trp Asn Ser Tyr Pro Pro Asn Ala Thr Ala Ser Thr Leu Leu His
      100              105              110
Ala Cys Asn Thr Tyr Cys Tyr Trp Leu Tyr Ser Glu Asp Pro Gln Thr
      115              120              125
Arg Lys Val Val Ile Thr Lys Gln His Thr Arg Lys Leu
      130              135              140

```

<210> 46

<211> 118

<212> PRT

<213> *Kluveromyces lactis*

<400> 46

Ala Asn Leu Leu His Pro Phe Thr Asp Ala Val Phe Ser Ala Met Arg
 1 5 10 15
 Val Asn Ala Glu Gln Ile Ala Tyr Ile Leu Leu Val Thr Asn Tyr Ile
 20 25 30
 Gly Val Leu Phe Ala Arg Ser Leu His Tyr Gln Phe Leu Ser Trp Tyr
 35 40 45
 His Trp Thr Leu Pro Val Leu Leu Asn Trp Ala Asn Val Pro Tyr Pro
 50 55 60
 Leu Cys Val Leu Trp Tyr Leu Thr His Glu Trp Cys Trp Asn Ser Tyr
 65 70 75 80
 Pro Pro Asn Ala Thr Ala Ser Thr Leu Leu His Ala Cys Asn Thr Tyr
 85 90 95
 Cys Tyr Trp Leu Tyr Ser Glu Asp Pro Gln Thr Arg Lys Val Val Ile
 100 105 110
 Thr Lys Gln His Thr Arg
 115

<210> 47

<211> 117

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 47

Ser Ser Leu Cys His Pro Leu Arg Lys Asn Ala Val Leu Asn Ala Asn
 1 5 10 15
 Pro Ala Lys Thr Ile Pro Phe Val Leu Ile Ala Ser Asn Phe Ile Gly
 20 25 30
 Val Leu Phe Ser Arg Ser Leu His Tyr Gln Phe Leu Ser Trp Tyr His
 35 40 45

Trp Thr Leu Pro Ile Leu Ile Phe Trp Ser Gly Met Pro Phe Phe Val
 50 55 60
 Gly Pro Ile Trp Tyr Val Leu His Glu Trp Cys Trp Asn Ser Tyr Pro
 65 70 75 80
 Pro Asn Ser Gln Ala Ser Thr Leu Leu Leu Ala Leu Asn Thr Val Leu
 85 90 95
 Leu Leu Leu Leu Ala Leu Thr Gln Leu Ser Gly Ser Val Ala Leu Ala
 100 105 110
 Lys Ser His Leu Arg
 115

<210> 48

<211> 113

<212> PRT

<213> *Kluveromyces lactis*

<400> 48

Phe Thr Asp Ala Val Phe Ser Ala Met Arg Val Asn Ala Glu Gln Ile
 1 5 10 15
 Ala Tyr Ile Leu Leu Val Thr Asn Tyr Ile Gly Val Leu Phe Ala Arg
 20 25 30
 Ser Leu His Tyr Gln Phe Leu Ser Trp Tyr His Trp Thr Leu Pro Val
 35 40 45
 Leu Leu Asn Trp Ala Asn Val Pro Tyr Pro Leu Cys Val Leu Trp Tyr
 50 55 60
 Leu Thr His Glu Trp Cys Trp Asn Ser Tyr Pro Pro Asn Ala Thr Ala
 65 70 75 80
 Ser Thr Leu Leu His Ala Cys Asn Thr Tyr Cys Tyr Trp Leu Tyr Ser
 85 90 95
 Glu Asp Pro Gln Thr Arg Lys Val Val Ile Thr Lys Gln His Thr Arg
 100 105 110
 Lys

<210> 49

<211> 106

<212> PRT

<213> *Arabidopsis thaliana*

<400> 49

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Phe Ser Asp Val Ser Ala Ser Arg Ile Ile Thr Lys Glu His Val Val
 1             5             10             15
Thr Ala Met Phe Val Gly Asn Phe Ile Gly Ile Val Phe Ala Arg Ser
      20             25             30
Leu His Tyr Gln Phe Tyr Ser Trp Tyr Phe Tyr Ser Leu Pro Tyr Leu
      35             40             45
Leu Trp Arg Thr Pro Phe Pro Thr Trp Leu Arg Leu Ile Met Phe Leu
      50             55             60
Gly Ile Glu Leu Cys Trp Asn Val Tyr Pro Ser Thr Pro Ser Ser Ser
65             70             75             80
Gly Leu Leu Leu Cys Leu His Leu Ile Ile Leu Val Gly Leu Trp Leu
      85             90             95
Ala Pro Ser Val Asp Pro Tyr Gln Leu Lys
      100             105

```

<210> 50

<211> 1668

<212> DNA

<213> *Saccharomyces cerevisiae*

<400> 50

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atgaattgca aggcggtaac cattagttta ttactgttgt tatttttaac aagagtatat 60
attcagccga cattctcggt aatttcagat tgcgatgaaa cttttaatta ttgggaacca 120
ttaaatttat tggtagctgg atttggtaaa caaacctggg aatattcacc cgagtattct 180
attagatcat gggctttctt attacctttt tactgtattc tttatccagt aaacaaattt 240
actgacctag aaagtcattg gaactttttc atcacaagag catgcttagg ctttttttagt 300
tttatcatgg aatttaaact acatcgtaga attgcaggca gcttggcatt gcaaatacgca 360
aatatttgga ttattttcca attgtttaat cggggctggg tccatgcata tgtggaatta 420
ttgccttctg ccgttgccat gttgttgat gtaggtgcca ccagacactc tctacgctat 480
ctgtccactg ggtctacttc taactttacg aaaagtttag cgtacaattt cctggctagt 540
atactaggct ggccatttgt ttttaatttta agcttgccat tatgtttaca ttaccttttc 600

```

```

aaccatagaa ttatttctac catcagaacc gcattcgact gctgtttgat attttcattg 660
actgcatttg ctgtgattgt cactgacagt atattttacg ggaagcttgc tcctgtatca 720
tggaacatct tattttacaa tgtcattaat gcaagtgagg aatctggccc aaatattttc 780
ggggttgagc catggtacta ctatccacta aatttggttac tgaatttccc actgcctgtg 840
ctagttttag ctattttggg aattttccat ttgagattat ggccattatg ggcatcatta 900
ttcacatgga ttgccgtttt cactcaacaa cctcacaag aggaaagatt tctctatcca 960
atttacgggt taataacttt gagtgcaagt atcgccctttt acaaagtgtt gaatctattc 1020
aatagaaagc cgattcttaa aaaagggtata aagttgtcag ttttattaat tgttgcaggc 1080
caggcaatgt cacggatagt ggctttgggtg aacaattaca cagctcctat agccgtctac 1140
gagcaatttt cttcactaaa tcaagggtgtg gtgaaggcac cggtagttaa tgtatgtacg 1200
ggacgtgaat ggtatcactt cccaagttct ttctgtctgc cagataatca taggctaaaa 1260
tttgttaaat ctggatttga tgggtcttctt ccagggtgatt ttccagagag tggttctatt 1320
ttcaaaaaga ttagaacttt acctaaggga atgaataaca agaatatata tgataccggt 1380
aaagagtggc cgatcactag atgtgattat ttatttgaca tcgtcgcccc aataaattta 1440
acaaaagacg ttttcaaccc tctacatctg atggataact ggaataagct ggcatgtgct 1500
gcattcatcg acggtgaaaa ttctaagatt ttgggtagag cattttacgt accggagcca 1560
atcaaccgaa tcatgcaaat agttttacca aaacaatgga atcaagtgtg cggtgttcgt 1620
tacattgatt actgtttgtt tgaaaaacca actgagacta ctaattga 1668

```

<210> 51

<211> 555

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 51

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Met Asn Cys Lys Ala Val Thr Ile Ser Leu Leu Leu Leu Phe Leu
 1             5             10             15
Thr Arg Val Tyr Ile Gln Pro Thr Phe Ser Leu Ile Ser Asp Cys Asp
      20             25             30
Glu Thr Phe Asn Tyr Trp Glu Pro Leu Asn Leu Leu Val Arg Gly Phe
      35             40             45
Gly Lys Gln Thr Trp Glu Tyr Ser Pro Glu Tyr Ser Ile Arg Ser Trp
      50             55             60
Ala Phe Leu Leu Pro Phe Tyr Cys Ile Leu Tyr Pro Val Asn Lys Phe
65             70             75             80
Thr Asp Leu Glu Ser His Trp Asn Phe Phe Ile Thr Arg Ala Cys Leu
      85             90             95

```

Gly	Phe	Phe	Ser	Phe	Ile	Met	Glu	Phe	Lys	Leu	His	Arg	Glu	Ile	Ala
			100					105					110		
Gly	Ser	Leu	Ala	Leu	Gln	Ile	Ala	Asn	Ile	Trp	Ile	Ile	Phe	Gln	Leu
		115					120					125			
Phe	Asn	Pro	Gly	Trp	Phe	His	Ala	Ser	Val	Glu	Leu	Leu	Pro	Ser	Ala
	130					135				140					
Val	Ala	Met	Leu	Leu	Tyr	Val	Gly	Ala	Thr	Arg	His	Ser	Leu	Arg	Tyr
145					150					155				160	
Leu	Ser	Thr	Gly	Ser	Thr	Ser	Asn	Phe	Thr	Lys	Ser	Leu	Ala	Tyr	Asn
			165						170					175	
Phe	Leu	Ala	Ser	Ile	Leu	Gly	Trp	Pro	Phe	Val	Leu	Ile	Leu	Ser	Leu
		180						185					190		
Pro	Leu	Cys	Leu	His	Tyr	Leu	Phe	Asn	His	Arg	Ile	Ile	Ser	Thr	Ile
	195						200					205			
Arg	Thr	Ala	Phe	Asp	Cys	Cys	Leu	Ile	Phe	Ser	Leu	Thr	Ala	Phe	Ala
	210				215						220				
Val	Ile	Val	Thr	Asp	Ser	Ile	Phe	Tyr	Gly	Lys	Leu	Ala	Pro	Val	Ser
225					230					235				240	
Trp	Asn	Ile	Leu	Phe	Tyr	Asn	Val	Ile	Asn	Ala	Ser	Glu	Glu	Ser	Gly
			245						250					255	
Pro	Asn	Ile	Phe	Gly	Val	Glu	Pro	Trp	Tyr	Tyr	Tyr	Pro	Leu	Asn	Leu
		260						265					270		
Leu	Leu	Asn	Phe	Pro	Leu	Pro	Val	Leu	Val	Leu	Ala	Ile	Leu	Gly	Ile
		275						280					285		
Phe	His	Leu	Arg	Leu	Trp	Pro	Leu	Trp	Ala	Ser	Leu	Phe	Thr	Trp	Ile
	290					295					300				
Ala	Val	Phe	Thr	Gln	Gln	Pro	His	Lys	Glu	Glu	Arg	Phe	Leu	Tyr	Pro
305					310					315				320	
Ile	Tyr	Gly	Leu	Ile	Thr	Leu	Ser	Ala	Ser	Ile	Ala	Phe	Tyr	Lys	Val
			325						330					335	
Leu	Asn	Leu	Phe	Asn	Arg	Lys	Pro	Ile	Leu	Lys	Lys	Gly	Ile	Lys	Leu
		340						345					350		
Ser	Val	Leu	Leu	Ile	Val	Ala	Gly	Gln	Ala	Met	Ser	Arg	Ile	Val	Ala
		355					360					365			
Leu	Val	Asn	Asn	Tyr	Thr	Ala	Pro	Ile	Ala	Val	Tyr	Glu	Gln	Phe	Ser
	370					375					380				
Ser	Leu	Asn	Gln	Gly	Gly	Val	Lys	Ala	Pro	Val	Val	Asn	Val	Cys	Thr

```

385          390          395          400
Gly Arg Glu Trp Tyr His Phe Pro Ser Ser Phe Leu Leu Pro Asp Asn
          405          410          415
His Arg Leu Lys Phe Val Lys Ser Gly Phe Asp Gly Leu Leu Pro Gly
          420          425          430
Asp Phe Pro Glu Ser Gly Ser Ile Phe Lys Lys Ile Arg Thr Leu Pro
          435          440          445
Lys Gly Met Asn Asn Lys Asn Ile Tyr Asp Thr Gly Lys Glu Trp Pro
          450          455          460
Ile Thr Arg Cys Asp Tyr Phe Ile Asp Ile Val Ala Pro Ile Asn Leu
465          470          475          480
Thr Lys Asp Val Phe Asn Pro Leu His Leu Met Asp Asn Trp Asn Lys
          485          490          495
Leu Ala Cys Ala Ala Phe Ile Asp Gly Glu Asn Ser Lys Ile Leu Gly
          500          505          510
Arg Ala Phe Tyr Val Pro Glu Pro Ile Asn Arg Ile Met Gln Ile Val
          515          520          525
Leu Pro Lys Gln Trp Asn Gln Val Tyr Gly Val Arg Tyr Ile Asp Tyr
          530          535          540
Cys Leu Phe Glu Lys Pro Thr Glu Thr Thr Asn
545          550          555

```

<210> 52

<211> 600

<212> DNA

<213> *Pichia pastoris*

<400> 52

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tggccttcct gtctgctcga tacttccttt tacagtaacc aacatacatg ttctccaaca 60
tgctcttgta tgtattggcc tattctatct tgagacttga tatcaacctt ctatggtatt 120
atttcagact gtgatgaagt gttcaactac tgggagccac tcaacttcat gcttagaggg 180
tttggaaaac agacttggga gtattctcca gagtatgcca tccgatcttg gtcctatcta 240
gtgccacttt ggatagcagg ctatccacca ttgttcttgg atatcccttc ttactacttt 300
ttctactttt tcagactact gctggttatt ttttcattgg ttgcagaagt caagttgtac 360
catagtttga agaaaaatgt cagcagtaag atcagtttct ggtaccttct atttacaacc 420
gttgctccag gaatgtctca tagcacgata gccttattac catcctcttt tgctatgggt 480

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tgtcacactt ttgccattag atacgtcatt gattacctac aattaccaac attaatgcgc 540
 acaatcagag agactgctgc catctcacca gctcacaaac aacaactagc caactctctc 600

<210> 53

<211> 199

<212> PRT

<213> *Pichia pastoris*

<400> 53

Trp	Pro	Ser	Cys	Leu	Leu	Asp	Thr	Ser	Phe	Tyr	Ser	Asn	Gln	His	Thr
1				5					10					15	
Cys	Ser	Pro	Thr	Cys	Ser	Cys	Met	Tyr	Trp	Pro	Ile	Leu	Ser	Asp	Leu
			20					25					30		
Ile	Ser	Thr	Phe	Tyr	Gly	Ile	Ile	Ser	Asp	Cys	Asp	Glu	Val	Phe	Asn
		35					40					45			
Tyr	Trp	Glu	Pro	Leu	Asn	Phe	Met	Leu	Arg	Gly	Phe	Gly	Lys	Gln	Thr
	50					55					60				
Trp	Glu	Tyr	Ser	Pro	Glu	Tyr	Ala	Ile	Arg	Ser	Trp	Ser	Tyr	Leu	Val
65					70					75				80	
Pro	Leu	Trp	Ile	Ala	Gly	Tyr	Pro	Pro	Leu	Phe	Leu	Asp	Ile	Pro	Ser
				85					90					95	
Tyr	Tyr	Phe	Phe	Tyr	Phe	Phe	Arg	Leu	Leu	Leu	Val	Ile	Phe	Ser	Leu
				100					105				110		
Val	Ala	Glu	Val	Lys	Leu	Tyr	His	Ser	Leu	Lys	Lys	Asn	Val	Ser	Ser
		115					120					125			
Lys	Ile	Ser	Phe	Trp	Tyr	Leu	Leu	Phe	Thr	Thr	Val	Ala	Pro	Gly	Met
	130					135					140				
Ser	His	Ser	Thr	Ile	Ala	Leu	Leu	Pro	Ser	Ser	Phe	Ala	Met	Val	Cys
145					150					155				160	
His	Thr	Phe	Ala	Ile	Arg	Tyr	Val	Ile	Asp	Tyr	Leu	Gln	Leu	Pro	Thr
			165						170				175		
Leu	Met	Arg	Thr	Ile	Arg	Glu	Thr	Ala	Ala	Ile	Ser	Pro	Ala	His	Lys
			180					185					190		
Gln	Gln	Leu	Ala	Asn	Ser	Leu									
			195												

<210> 54

<211> 140

<212> PRT

<213> *Pichia pastoris*

<220>

<221> MOD_RES

<222> (65)...(71)

<223> Variable amino acid

<400> 54

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Ile Ser Thr Phe Tyr Gly Ile Ile Ser Asp Cys Asp Glu Val Phe Asn
 1             5             10             15
Tyr Trp Glu Pro Leu Asn Phe Met Leu Arg Gly Phe Gly Lys Gln Thr
          20             25             30
Trp Glu Tyr Ser Pro Glu Tyr Ala Ile Arg Ser Trp Ser Tyr Leu Val
          35             40             45
Pro Leu Trp Ile Ala Gly Tyr Pro Pro Leu Phe Leu Asp Ile Pro Ser
          50             55             60
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Arg Leu Leu Leu Val Ile Phe Ser Leu
65             70             75             80
Val Ala Glu Val Lys Leu Tyr His Ser Leu Lys Lys Asn Val Ser Ser
          85             90             95
Lys Ile Ser Phe Trp Tyr Leu Leu Phe Thr Thr Val Ala Pro Gly Met
          100            105            110
Ser His Ser Thr Ile Ala Leu Leu Pro Ser Ser Phe Ala Met Val Cys
          115            120            125
His Thr Phe Ala Ile Arg Tyr Val Ile Asp Tyr Leu
          130            135            140

```

<210> 55

<211> 141

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 55

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Ile Gln Pro Thr Phe Ser Leu Ile Ser Asp Cys Asp Glu Thr Phe Asn
 1           5           10           15
Tyr Trp Glu Pro Leu Asn Leu Leu Val Arg Gly Phe Gly Lys Gln Thr
      20           25           30
Trp Glu Tyr Ser Pro Glu Tyr Ser Ile Arg Ser Trp Ala Phe Leu Leu
      35           40           45
Pro Phe Tyr Cys Ile Leu Tyr Pro Val Asn Lys Phe Thr Asp Leu Glu
      50           55           60
Ser His Trp Asn Phe Phe Ile Thr Arg Ala Cys Leu Gly Phe Phe Ser
65           70           75           80
Phe Ile Met Glu Phe Lys Leu His Arg Glu Ile Ala Gly Ser Leu Ala
      85           90           95
Leu Gln Ile Ala Asn Ile Trp Ile Ile Phe Gln Leu Phe Asn Pro Gly
      100          105          110
Trp Phe His Ala Ser Val Glu Leu Leu Pro Ser Ala Val Ala Met Leu
      115          120          125
Leu Tyr Val Gly Ala Thr Arg His Ser Leu Arg Tyr Leu
      130          135          140

```

<210> 56

<211> 127

<212> PRT

<213> *Pichia pastoris*

<220>

<221> MOD_RES

<222> (66)...(72)

<223> Variable amino acid

<400> 56

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Leu Ile Ser Thr Phe Tyr Gly Ile Ile Ser Asp Cys Asp Glu Val Phe
 1           5           10           15
Asn Tyr Trp Glu Pro Leu Asn Phe Met Leu Arg Gly Phe Gly Lys Gln
      20           25           30
Thr Trp Glu Tyr Ser Pro Glu Tyr Ala Ile Arg Ser Trp Ser Tyr Leu

```


35	40	45
Val Pro Leu Trp Ile Ala Gly Tyr Pro Pro Leu Phe Leu Asp Ile Pro		
50	55	60
Ser Xaa Xaa Xaa Xaa Xaa Xaa Xaa Arg Leu Leu Leu Val Ile Phe Ser		
65	70	75
Leu Val Ala Glu Val Lys Leu Tyr His Ser Leu Lys Lys Asn Val Ser		
85	90	95
Ser Lys Ile Ser Phe Trp Tyr Leu Leu Phe Thr Thr Val Ala Pro Gly		
100	105	110
Met Ser His Ser Thr Ile Ala Leu Leu Pro Ser Ser Phe Ala Met		
115	120	125

<210> 57

<211> 127

<212> PRT

<213> Anopheles gambiae

<400> 57

Leu Gln Ser Ala Leu Tyr Ser Ile Ile Ser Asp Cys Asp Glu Thr Tyr		
1	5	10
Asn Tyr Trp Glu Pro Leu His Tyr Leu Leu Lys Gly Lys Gly Phe Gln		
20	25	30
Thr Trp Glu Tyr Ser Pro Glu Phe Ala Leu Arg Ser Tyr Ser Tyr Leu		
35	40	45
Trp Leu His Gly Leu Pro Ala Lys Val Leu Gln Leu Met Thr Asp Asn		
50	55	60
Gly Val Leu Ile Phe Tyr Phe Val Arg Cys Leu Leu Ala Val Thr Cys		
65	70	75
Ala Leu Leu Glu Tyr Arg Leu Tyr Arg Ile Leu Gly Arg Lys Cys Gly		
85	90	95
Gly Gly Val Ala Ser Leu Trp Leu Leu Phe Gln Leu Thr Ser Ala Gly		
100	105	110
Met Phe Ile Ser Ser Ala Ala Leu Leu Pro Ser Ser Phe Ser Met		
115	120	125

<210> 58
 <211> 157
 <212> PRT
 <213> *Pichia pastoris*

<220>
 <221> MOD_RES
 <222> (66)...(72)
 <223> Variable amino acid

<400> 58
 Leu Ile Ser Thr Phe Tyr Gly Ile Ile Ser Asp Cys Asp Glu Val Phe
 1 5 10 15
 Asn Tyr Trp Glu Pro Leu Asn Phe Met Leu Arg Gly Phe Gly Lys Gln
 20 25 30
 Thr Trp Glu Tyr Ser Pro Glu Tyr Ala Ile Arg Ser Trp Ser Tyr Leu
 35 40 45
 Val Pro Leu Trp Ile Ala Gly Tyr Pro Pro Leu Phe Leu Asp Ile Pro
 50 55 60
 Ser Xaa Xaa Xaa Xaa Xaa Xaa Xaa Arg Leu Leu Leu Val Ile Phe Ser
 65 70 75 80
 Leu Val Ala Glu Val Lys Leu Tyr His Ser Leu Lys Lys Asn Val Ser
 85 90 95
 Ser Lys Ile Ser Phe Trp Tyr Leu Leu Phe Thr Thr Val Ala Pro Gly
 100 105 110
 Met Ser His Ser Thr Ile Ala Leu Leu Pro Ser Ser Phe Ala Met Val
 115 120 125
 Cys His Thr Phe Ala Ile Arg Tyr Val Ile Asp Tyr Leu Gln Leu Pro
 130 135 140
 Thr Leu Met Arg Thr Ile Arg Glu Thr Ala Ala Ile Ser
 145 150 155

<210> 59
 <211> 154
 <212> PRT
 <213> *Schizosaccharomyces pombe*

<400> 59

Leu Thr Ser Ala Ser Phe Arg Val Ile Asp Asp Cys Asp Glu Val Tyr
 1 5 10 15
 Asn Tyr Trp Glu Pro Leu His Tyr Leu Leu Tyr Gly Tyr Gly Leu Gln
 20 25 30
 Thr Trp Glu Tyr Ser Pro Glu Tyr Ala Ile Arg Ser Trp Phe Tyr Ile
 35 40 45
 Ala Leu His Ala Val Pro Gly Phe Leu Ala Arg Gly Leu Gly Leu Ser
 50 55 60
 Arg Leu His Val Phe Tyr Phe Ile Arg Gly Val Leu Ala Cys Phe Ser
 65 70 75 80
 Ala Phe Cys Glu Thr Asn Leu Ile Leu Ala Val Ala Arg Asn Phe Asn
 85 90 95
 Arg Ala Val Ala Leu His Leu Thr Ser Val Leu Phe Val Asn Ser Gly
 100 105 110
 Met Trp Ser Ala Ser Thr Ser Phe Leu Pro Ser Ser Phe Ala Met Asn
 115 120 125
 Met Val Thr Leu Ala Leu Ser Ala Gln Leu Ser Pro Pro Ser Thr Lys
 130 135 140
 Arg Thr Val Lys Val Val Ser Phe Ile Thr
 145 150

<210> 60

<211> 141

<212> PRT

<213> *Pichia pastoris*

<220>

<221> MOD_RES

<222> (80)...(86)

<223> Variable amino acid

<400> 60

Ser Pro Thr Cys Ser Cys Met Tyr Trp Pro Ile Leu Ser Asp Leu Ile
 1 5 10 15

```

Ser Thr Phe Tyr Gly Ile Ile Ser Asp Cys Asp Glu Val Phe Asn Tyr
      20                      25                      30
Trp Glu Pro Leu Asn Phe Met Leu Arg Gly Phe Gly Lys Gln Thr Trp
      35                      40                      45
Glu Tyr Ser Pro Glu Tyr Ala Ile Arg Ser Trp Ser Tyr Leu Val Pro
      50                      55                      60
Leu Trp Ile Ala Gly Tyr Pro Pro Leu Phe Leu Asp Ile Pro Ser Xaa
65                      70                      75                      80
Xaa Xaa Xaa Xaa Xaa Xaa Arg Leu Leu Leu Val Ile Phe Ser Leu Val
      85                      90                      95
Ala Glu Val Lys Leu Tyr His Ser Leu Lys Lys Asn Val Ser Ser Lys
      100                     105                     110
Ile Ser Phe Trp Tyr Leu Leu Phe Thr Thr Val Ala Pro Gly Met Ser
      115                     120                     125
His Ser Thr Ile Ala Leu Leu Pro Ser Ser Phe Ala Met
      130                     135                     140

```

<210> 61

<211> 143

<212> PRT

<213> Mus musculus

<400> 61

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Ala Pro Glu Gly Ser Thr Ala Phe Lys Cys Leu Leu Ser Ala Arg Leu
1                      5                      10                      15
Cys Ala Ala Leu Leu Ser Asn Ile Ser Asp Cys Asp Glu Thr Phe Asn
      20                      25                      30
Tyr Trp Glu Pro Thr His Tyr Leu Ile Tyr Gly Lys Gly Phe Gln Thr
      35                      40                      45
Trp Glu Tyr Ser Pro Val Tyr Ala Ile Arg Ser Tyr Ala Tyr Leu Leu
      50                      55                      60
Leu His Ala Trp Pro Ala Ala Phe His Ala Arg Ile Leu Gln Thr Asn
65                      70                      75                      80
Lys Ile Leu Val Phe Tyr Phe Leu Arg Cys Leu Leu Ala Phe Val Ser
      85                      90                      95
Cys Val Cys Glu Leu Tyr Phe Tyr Lys Ala Val Cys Lys Lys Phe Gly

```

```

          100              105              110
Leu His Val Ser Arg Met Met Leu Ala Phe Leu Val Leu Ser Thr Gly
          115              120              125
Met Phe Cys Ser Ser Ser Ala Phe Leu Pro Ser Ser Phe Cys Met
          130              135              140

```

<210> 62

<211> 141

<212> PRT

<213> *Pichia pastoris*

<220>

<221> MOD_RES

<222> (80)...(86)

<223> Variable amino acid

<400> 62

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Ser Pro Thr Cys Ser Cys Met Tyr Trp Pro Ile Leu Ser Asp Leu Ile
 1              5              10              15
Ser Thr Phe Tyr Gly Ile Ile Ser Asp Cys Asp Glu Val Phe Asn Tyr
          20              25              30
Trp Glu Pro Leu Asn Phe Met Leu Arg Gly Phe Gly Lys Gln Thr Trp
          35              40              45
Glu Tyr Ser Pro Glu Tyr Ala Ile Arg Ser Trp Ser Tyr Leu Val Pro
          50              55              60
Leu Trp Ile Ala Gly Tyr Pro Pro Leu Phe Leu Asp Ile Pro Ser Xaa
65              70              75              80
Xaa Xaa Xaa Xaa Xaa Xaa Arg Leu Leu Leu Val Ile Phe Ser Leu Val
          85              90              95
Ala Glu Val Lys Leu Tyr His Ser Leu Lys Lys Asn Val Ser Ser Lys
          100              105              110
Ile Ser Phe Trp Tyr Leu Leu Phe Thr Thr Val Ala Pro Gly Met Ser
          115              120              125
His Ser Thr Ile Ala Leu Leu Pro Ser Ser Phe Ala Met
          130              135              140

```

<210> 63

<211> 143

<212> PRT

<213> Homo sapiens

<400> 63

Ala Pro Glu Gly Ser Thr Ala Phe Lys Cys Leu Leu Ser Ala Arg Leu
 1 5 10 15
 Cys Ala Ala Leu Leu Ser Asn Ile Ser Asp Cys Asp Glu Thr Phe Asn
 20 25 30
 Tyr Trp Glu Pro Thr His Tyr Leu Ile Tyr Gly Glu Gly Phe Gln Thr
 35 40 45
 Trp Glu Tyr Ser Pro Ala Tyr Ala Ile Arg Ser Tyr Ala Tyr Leu Leu
 50 55 60
 Leu His Ala Trp Pro Ala Ala Phe His Ala Arg Ile Leu Gln Thr Asn
 65 70 75 80
 Lys Ile Leu Val Phe Tyr Phe Leu Arg Cys Leu Leu Ala Phe Val Ser
 85 90 95
 Cys Ile Cys Glu Leu Tyr Phe Tyr Lys Ala Val Cys Lys Lys Phe Gly
 100 105 110
 Leu His Val Ser Arg Met Met Leu Ala Phe Leu Val Leu Ser Thr Gly
 115 120 125
 Met Phe Cys Ser Ser Ser Ala Phe Leu Pro Ser Ser Phe Cys Met
 130 135 140

<210> 64

<211> 1656

<212> DNA

<213> Saccharomyces cerevisiae

<400> 64

atgcggttggc ctgtccttga tacagtgccta ttgaccgtga tttcctttca tctaataccaa 60
 gctccattca ccaaggtgga agagagtttt aatattcaag ccattcatga tattttaacc 120
 tacagcgtat ttgatatctc ccaatatgac cacttgaaat ttcctggagt agtccctaga 180
 acattcggtg gtgctgtgat tattgcaatg ctttcgagac cttatcttta cttgagttct 240

```

ttgatccaaa cttccaggcc tacgtctata gatgttcaat tggtcgtag ggggattggt 300
ggcctcacca atgggctttc ttttatctat ttaaagaatt gtttgcaaga tatgtttgat 360
gaaatcactg aaaagaaaaa ggaagaaaat gaagacaagg atatatacat ttacgatagc 420
gctggtacat ggtttctttt atttttaatt ggcagtttcc acctcatgtt ctacagcact 480
aggactctgc ctaattttgt catgactctg cctctaacca acgtcgcatg ggggtgggtt 540
ttattgggtc gttataatgc agctatatct ctatctgcgc tcgtggcaat tgtatttaga 600
ctggaagtgt cagctctcag tgctggtatt gctctattta gcgtcatctt caagaagatt 660
tctttattcg atgctatcaa attcggatc tttggcttgg gacttggttc cgccatcagt 720
atcacctgtg attcatatatt ctggcaagaa tgggtgtctac ctgaggtaga tggtttcttg 780
ttcaacgtgg ttgcgggtta cgcttccaag tggggtgtgg agccagttac tgcttatttc 840
acgcattact tgagaatgat gtttatgcc acaactgttt tactattgaa ttacttcggc 900
tataaattag cacctgcaaa attaaaaatt gtctcactag catctctttt ccacattatc 960
gtcttatacct ttcaacctca caaagaatgg agattcatca tctacgctgt tccatctatc 1020
atgttgctag gtgccacagg agcagcacat ctatgggaga atatgaaagt aaaaaagatt 1080
accaatgttt tatgtttggc tatattgccc ttatctataa tgacctcctt tttcatttca 1140
atggcgttct tgtatatatc aagaatgaat tatccaggcg gcgaggcttt aacttctttt 1200
aatgacatga ttgtggaaaa aaatattaca aacgctacag ttcatatcag catacctcct 1260
tgcatgacag gtgtcacttt atttggtgaa ttgaactacg gtgtgtacgg catcaattac 1320
gataagactg aaaatacgac tttactgcag gaaatgtggc cctcctttga tttcttgatc 1380
accacagagc caaccgcctc tcaattgcc aatcgagaata agactaccaa ccattgggag 1440
ctagttaaca caacaaagat gtttactgga tttgaccaa cctacattaa gaactttggt 1500
ttccaagaga gagtgaatgt tttgtctcta ctcaaacaga tcatttttoga caagaccct 1560
accgtttttt tgaaagaatt gacggccaat tcgattgtta aaagcgatgt cttcttcacc 1620
tataagagaa tcaacaaga tgaaaaaact gattga 1656

```

<210> 65

<211> 551

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 65

```

Met Arg Trp Ser Val Leu Asp Thr Val Leu Leu Thr Val Ile Ser Phe
 1             5             10             15
His Leu Ile Gln Ala Pro Phe Thr Lys Val Glu Glu Ser Phe Asn Ile
          20             25             30
Gln Ala Ile His Asp Ile Leu Thr Tyr Ser Val Phe Asp Ile Ser Gln
          35             40             45

```

Tyr	Asp	His	Leu	Lys	Phe	Pro	Gly	Val	Val	Pro	Arg	Thr	Phe	Val	Gly
50						55					60				
Ala	Val	Ile	Ile	Ala	Met	Leu	Ser	Arg	Pro	Tyr	Leu	Tyr	Leu	Ser	Ser
65					70					75					80
Leu	Ile	Gln	Thr	Ser	Arg	Pro	Thr	Ser	Ile	Asp	Val	Gln	Leu	Val	Val
				85					90					95	
Arg	Gly	Ile	Val	Gly	Leu	Thr	Asn	Gly	Leu	Ser	Phe	Ile	Tyr	Leu	Lys
			100					105					110		
Asn	Cys	Leu	Gln	Asp	Met	Phe	Asp	Glu	Ile	Thr	Glu	Lys	Lys	Lys	Glu
		115						120					125		
Glu	Asn	Glu	Asp	Lys	Asp	Ile	Tyr	Ile	Tyr	Asp	Ser	Ala	Gly	Thr	Trp
		130				135					140				
Phe	Leu	Leu	Phe	Leu	Ile	Gly	Ser	Phe	His	Leu	Met	Phe	Tyr	Ser	Thr
145					150					155					160
Arg	Thr	Leu	Pro	Asn	Phe	Val	Met	Thr	Leu	Pro	Leu	Thr	Asn	Val	Ala
				165					170					175	
Leu	Gly	Trp	Val	Leu	Leu	Gly	Arg	Tyr	Asn	Ala	Ala	Ile	Phe	Leu	Ser
			180					185					190		
Ala	Leu	Val	Ala	Ile	Val	Phe	Arg	Leu	Glu	Val	Ser	Ala	Leu	Ser	Ala
		195						200				205			
Gly	Ile	Ala	Leu	Phe	Ser	Val	Ile	Phe	Lys	Lys	Ile	Ser	Leu	Phe	Asp
		210				215					220				
Ala	Ile	Lys	Phe	Gly	Ile	Phe	Gly	Leu	Gly	Leu	Gly	Ser	Ala	Ile	Ser
225					230					235					240
Ile	Thr	Val	Asp	Ser	Tyr	Phe	Trp	Gln	Glu	Trp	Cys	Leu	Pro	Glu	Val
			245						250				255		
Asp	Gly	Phe	Leu	Phe	Asn	Val	Val	Ala	Gly	Tyr	Ala	Ser	Lys	Trp	Gly
			260					265					270		
Val	Glu	Pro	Val	Thr	Ala	Tyr	Phe	Thr	His	Tyr	Leu	Arg	Met	Met	Phe
		275						280				285			
Met	Pro	Pro	Thr	Val	Leu	Leu	Leu	Asn	Tyr	Phe	Gly	Tyr	Lys	Leu	Ala
		290				295					300				
Pro	Ala	Lys	Leu	Lys	Ile	Val	Ser	Leu	Ala	Ser	Leu	Phe	His	Ile	Ile
305					310					315					320
Val	Leu	Ser	Phe	Gln	Pro	His	Lys	Glu	Trp	Arg	Phe	Ile	Ile	Tyr	Ala
				325					330				335		
Val	Pro	Ser	Ile	Met	Leu	Leu	Gly	Ala	Thr	Gly	Ala	Ala	His	Leu	Trp


```

          340          345          350
Glu Asn Met Lys Val Lys Lys Ile Thr Asn Val Leu Cys Leu Ala Ile
          355          360          365
Leu Pro Leu Ser Ile Met Thr Ser Phe Phe Ile Ser Met Ala Phe Leu
          370          375          380
Tyr Ile Ser Arg Met Asn Tyr Pro Gly Gly Glu Ala Leu Thr Ser Phe
385          390          395          400
Asn Asp Met Ile Val Glu Lys Asn Ile Thr Asn Ala Thr Val His Ile
          405          410          415
Ser Ile Pro Pro Cys Met Thr Gly Val Thr Leu Phe Gly Glu Leu Asn
          420          425          430
Tyr Gly Val Tyr Gly Ile Asn Tyr Asp Lys Thr Glu Asn Thr Thr Leu
          435          440          445
Leu Gln Glu Met Trp Pro Ser Phe Asp Phe Leu Ile Thr His Glu Pro
          450          455          460
Thr Ala Ser Gln Leu Pro Phe Glu Asn Lys Thr Thr Asn His Trp Glu
465          470          475          480
Leu Val Asn Thr Thr Lys Met Phe Thr Gly Phe Asp Pro Thr Tyr Ile
          485          490          495
Lys Asn Phe Val Phe Gln Glu Arg Val Asn Val Leu Ser Leu Leu Lys
          500          505          510
Gln Ile Ile Phe Asp Lys Thr Pro Thr Val Phe Leu Lys Glu Leu Thr
          515          520          525
Ala Asn Ser Ile Val Lys Ser Asp Val Phe Phe Thr Tyr Lys Arg Ile
          530          535          540
Lys Gln Asp Glu Lys Thr Asp
545          550

```

<210> 66

<211> 840

<212> DNA

<213> *Pichia pastoris*

<400> 66

tcggtcgaga atgataactg aagaactcaa aatctctcac actttcatcg ttactgtact 60
ggcaatcatt gcatttcagc ctcataaaga atggagattt atagtttaca ttgttccacc 120

acttgatcatc accatatcta cagtacttgc acaactaccc aggagattca caatcgtcaa 180
 agttgctggtt tttctcctaa gtttcgggtc tttgctcata tccctgtcgt ttcttttcat 240
 ctcacgtat aactaccctg ggggtgaagc tttacagcat ttgaacgaga aactccttct 300
 actggacca agttccctac ctggtgatat taaggttcat atggatgtcc ctgcatgcat 360
 gactggggtg actttatttg gttacttgga taactcaaaa ttgaacaatt taagaattgt 420
 ctatgataaa acagaagacg agtcgctgga cacaatctgg gattctttca attatgtcat 480
 ctccgaaatt gacttggatt cttcgactgc tcccaaattg gagggggatt ggctgaagat 540
 tgatgttgct caaggctaca acggcatcaa taaacaatct atcaaaaata caattttcaa 600
 ttatggaata cttaaagcga tgataagaga cgcaaccaa cttgatgttg gattttattcg 660
 tacggtcttt cgatccttca taaaatttga tgataaatta ttcatttatg agaggagcag 720
 tcaaacctga aaatatatac ctcatgtgtt caatttggtg taaagagtgt ggcggataga 780
 cttcttgtaa atcaggaaag ctacaattcc aattgctgca aaaaatacca atgcccataa 840

<210> 67

<211> 239

<212> PRT

<213> *Pichia pastoris*

<400> 67

Arg	Met	Ile	Thr	Glu	Glu	Leu	Lys	Ile	Ser	His	Thr	Phe	Ile	Val	Thr
1				5				10					15		
Val	Leu	Ala	Ile	Ile	Ala	Phe	Gln	Pro	His	Lys	Glu	Trp	Arg	Phe	Ile
				20				25					30		
Val	Tyr	Ile	Val	Pro	Pro	Leu	Val	Ile	Thr	Ile	Ser	Thr	Val	Leu	Ala
				35				40					45		
Gln	Leu	Pro	Arg	Arg	Phe	Thr	Ile	Val	Lys	Val	Ala	Val	Phe	Leu	Leu
				50				55					60		
Ser	Phe	Gly	Ser	Leu	Leu	Ile	Ser	Leu	Ser	Phe	Leu	Phe	Ile	Ser	Ser
				65				70					75		80
Tyr	Asn	Tyr	Pro	Gly	Gly	Glu	Ala	Leu	Gln	His	Leu	Asn	Glu	Lys	Leu
				85				90					95		
Leu	Leu	Leu	Asp	Gln	Ser	Ser	Leu	Pro	Val	Asp	Ile	Lys	Val	His	Met
				100				105					110		
Asp	Val	Pro	Ala	Cys	Met	Thr	Gly	Val	Thr	Leu	Phe	Gly	Tyr	Leu	Asp
				115				120					125		
Asn	Ser	Lys	Leu	Asn	Asn	Leu	Arg	Ile	Val	Tyr	Asp	Lys	Thr	Glu	Asp

```

      130              135              140
Glu Ser Leu Asp Thr Ile Trp Asp Ser Phe Asn Tyr Val Ile Ser Glu
145              150              155              160
Ile Asp Leu Asp Ser Ser Thr Ala Pro Lys Trp Glu Gly Asp Trp Leu
      165              170              175
Lys Ile Asp Val Val Gln Gly Tyr Asn Gly Ile Asn Lys Gln Ser Ile
      180              185              190
Lys Asn Thr Ile Phe Asn Tyr Gly Ile Leu Lys Arg Met Ile Arg Asp
      195              200              205
Ala Thr Lys Leu Asp Val Gly Phe Ile Arg Thr Val Phe Arg Ser Phe
      210              215              220
Ile Lys Phe Asp Asp Lys Leu Phe Ile Tyr Glu Arg Ser Ser Gln
225              230              235

```

<210> 68

<211> 239

<212> PRT

<213> *Pichia pastoris*

<220>

<221> MOD_RES

<222> (62)...(80)

<223> Variable amino acid

<400> 68

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Arg Met Ile Thr Glu Glu Leu Lys Ile Ser His Thr Phe Ile Val Thr
  1              5              10              15
Val Leu Ala Ile Ile Ala Phe Gln Pro His Lys Glu Trp Arg Phe Ile
      20              25              30
Val Tyr Ile Val Pro Pro Leu Val Ile Thr Ile Ser Thr Val Leu Ala
      35              40              45
Gln Leu Pro Arg Arg Phe Thr Ile Val Lys Val Ala Val Xaa Xaa Xaa
      50              55              60
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
      65              70              75              80
Tyr Asn Tyr Pro Gly Gly Glu Ala Leu Gln His Leu Asn Glu Lys Leu

```

	85		90		95										
Leu	Leu	Leu	Asp	Gln	Ser	Ser	Leu	Pro	Val	Asp	Ile	Lys	Val	His	Met
	100		105		110										
Asp	Val	Pro	Ala	Cys	Met	Thr	Gly	Val	Thr	Leu	Phe	Gly	Tyr	Leu	Asp
	115		120		125										
Asn	Ser	Lys	Leu	Asn	Asn	Leu	Arg	Ile	Val	Tyr	Asp	Lys	Thr	Glu	Asp
	130		135		140										
Glu	Ser	Leu	Asp	Thr	Ile	Trp	Asp	Ser	Phe	Asn	Tyr	Val	Ile	Ser	Glu
145			150		155										160
Ile	Asp	Leu	Asp	Ser	Ser	Thr	Ala	Pro	Lys	Trp	Glu	Gly	Asp	Trp	Leu
	165		170		175										
Lys	Ile	Asp	Val	Val	Gln	Gly	Tyr	Asn	Gly	Ile	Asn	Lys	Gln	Ser	Ile
	180		185		190										
Lys	Asn	Thr	Ile	Phe	Asn	Tyr	Gly	Ile	Leu	Lys	Arg	Met	Ile	Arg	Asp
	195		200		205										
Ala	Thr	Lys	Leu	Asp	Val	Gly	Phe	Ile	Arg	Thr	Val	Phe	Arg	Ser	Phe
	210		215		220										
Ile	Lys	Phe	Asp	Asp	Lys	Leu	Phe	Ile	Tyr	Glu	Arg	Ser	Ser	Gln	
225			230		235										

<210> 69

<211> 245

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 69

Lys	Leu	Ala	Pro	Ala	Lys	Leu	Lys	Ile	Val	Ser	Leu	Ala	Ser	Leu	Phe
1		5		10		15									
His	Ile	Ile	Val	Leu	Ser	Phe	Gln	Pro	His	Lys	Glu	Trp	Arg	Phe	Ile
	20		25		30										
Ile	Tyr	Ala	Val	Pro	Ser	Ile	Met	Leu	Leu	Gly	Ala	Thr	Gly	Ala	Ala
	35		40		45										
His	Leu	Trp	Glu	Asn	Met	Lys	Val	Lys	Lys	Ile	Thr	Asn	Val	Leu	Cys
	50		55		60										
Leu	Ala	Ile	Leu	Pro	Leu	Ser	Ile	Met	Thr	Ser	Phe	Phe	Ile	Ser	Met
65			70		75										80

```

Ala Phe Leu Tyr Ile Ser Arg Met Asn Tyr Pro Gly Gly Glu Ala Leu
      85                      90                      95
Thr Ser Phe Asn Asp Met Ile Val Glu Lys Asn Ile Thr Asn Ala Thr
      100                    105                    110
Val His Ile Ser Ile Pro Pro Cys Met Thr Gly Val Thr Leu Phe Gly
      115                    120                    125
Glu Leu Asn Tyr Gly Val Tyr Gly Ile Asn Tyr Asp Lys Thr Glu Asn
      130                    135                    140
Thr Thr Leu Leu Gln Glu Met Trp Pro Ser Phe Asp Phe Leu Ile Thr
145                    150                    155                    160
His Glu Pro Thr Ala Ser Gln Leu Pro Phe Glu Asn Lys Thr Thr Asn
      165                    170                    175
His Trp Glu Leu Val Asn Thr Thr Lys Met Phe Thr Gly Phe Asp Pro
      180                    185                    190
Thr Tyr Ile Lys Asn Phe Val Phe Gln Glu Arg Val Asn Val Leu Ser
      195                    200                    205
Leu Leu Lys Gln Ile Ile Phe Asp Lys Thr Pro Thr Val Phe Leu Lys
      210                    215                    220
Glu Leu Thr Ala Asn Ser Ile Val Lys Ser Asp Val Phe Phe Thr Tyr
225                    230                    235                    240
Lys Arg Ile Lys Gln
      245

```

<210> 70

<211> 141

<212> PRT

<213> *Pichia pastoris*

<220>

<221> MOD_RES

<222> (43)...(61)

<223> Variable amino acid

<400> 70

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Ile Ile Ala Phe Gln Pro His Lys Glu Trp Arg Phe Ile Val Tyr Ile
  1              5              10              15

```

```

Val Pro Pro Leu Val Ile Thr Ile Ser Thr Val Leu Ala Gln Leu Pro
      20                      25                      30
Arg Arg Phe Thr Ile Val Lys Val Ala Val Xaa Xaa Xaa Xaa Xaa Xaa
      35                      40                      45
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Tyr Asn Tyr
      50                      55                      60
Pro Gly Gly Glu Ala Leu Gln His Leu Asn Glu Lys Leu Leu Leu Leu
65                      70                      75                      80
Asp Gln Ser Ser Leu Pro Val Asp Ile Lys Val His Met Asp Val Pro
      85                      90                      95
Ala Cys Met Thr Gly Val Thr Leu Phe Gly Tyr Leu Asp Asn Ser Lys
      100                     105                     110
Leu Asn Asn Leu Arg Ile Val Tyr Asp Lys Thr Glu Asp Glu Ser Leu
      115                     120                     125
Asp Thr Ile Trp Asp Ser Phe Asn Tyr Val Ile Ser Glu
      130                     135                     140

```

<210> 71

<211> 137

<212> PRT

<213> Schizosaccharomyces pombe

<400> 71

```

Val Tyr Ser Phe Leu Gly His Lys Glu Trp Arg Phe Ile Ile Tyr Ser
  1                      5                      10                      15
Ile Pro Trp Phe Asn Ala Ala Ser Ala Ile Gly Ala Ser Leu Cys Phe
      20                      25                      30
Asn Ala Ser Lys Phe Gly Lys Lys Ile Phe Glu Ile Leu Arg Leu Met
      35                      40                      45
Phe Phe Ser Gly Ile Ile Phe Gly Phe Ile Gly Ser Ser Phe Leu Leu
      50                      55                      60
Tyr Val Phe Gln Tyr Ala Tyr Pro Gly Gly Leu Ala Leu Thr Arg Leu
65                      70                      75                      80
Tyr Glu Ile Glu Asn His Pro Gln Val Ser Val His Met Asp Val Tyr
      85                      90                      95
Pro Cys Met Thr Gly Ile Thr Arg Phe Ser Gln Leu Pro Ser Trp Tyr

```

100 105 110
 Tyr Asp Lys Thr Glu Asp Pro Lys Met Leu Ser Asn Ser Leu Phe Ile
 115 120 125
 Ser Gln Phe Asp Tyr Leu Ile Thr Glu
 130 135

<210> 72

<211> 143

<212> PRT

<213> *Pichia pastoris*

<220>

<221> MOD_RES

<222> (45)...(63)

<223> Variable amino acid

<400> 72

Leu Ala Ile Ile Ala Phe Gln Pro His Lys Glu Trp Arg Phe Ile Val
 1 5 10 15
 Tyr Ile Val Pro Pro Leu Val Ile Thr Ile Ser Thr Val Leu Ala Gln
 20 25 30
 Leu Pro Arg Arg Phe Thr Ile Val Lys Val Ala Val Xaa Xaa Xaa Xaa
 35 40 45
 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Tyr
 50 55 60
 Asn Tyr Pro Gly Gly Glu Ala Leu Gln His Leu Asn Glu Lys Leu Leu
 65 70 75 80
 Leu Leu Asp Gln Ser Ser Leu Pro Val Asp Ile Lys Val His Met Asp
 85 90 95
 Val Pro Ala Cys Met Thr Gly Val Thr Leu Phe Gly Tyr Leu Asp Asn
 100 105 110
 Ser Lys Leu Asn Asn Leu Arg Ile Val Tyr Asp Lys Thr Glu Asp Glu
 115 120 125
 Ser Leu Asp Thr Ile Trp Asp Ser Phe Asn Tyr Val Ile Ser Glu
 130 135 140

<210> 73

<211> 137

<212> PRT

<213> Homo sapiens

<400> 73

```

Met Ala Leu Tyr Ser Leu Leu Pro His Lys Glu Leu Arg Phe Ile Ile
 1             5             10             15
Tyr Ala Phe Pro Met Leu Asn Ile Thr Ala Ala Arg Gly Cys Ser Tyr
      20             25             30
Leu Leu Asn Asn Tyr Lys Lys Ser Trp Leu Tyr Lys Ala Gly Ser Leu
      35             40             45
Leu Val Ile Gly His Leu Val Val Asn Ala Ala Tyr Ser Ala Thr Ala
      50             55             60
Leu Tyr Val Ser His Phe Asn Tyr Pro Gly Gly Val Ala Met Gln Arg
65             70             75             80
Leu His Gln Leu Val Pro Pro Gln Thr Asp Val Leu Leu His Ile Asp
      85             90             95
Val Ala Ala Ala Gln Thr Gly Val Ser Arg Phe Leu Gln Val Asn Ser
      100            105            110
Ala Trp Arg Tyr Asp Lys Arg Glu Asp Val Gln Pro Gly Thr Gly Met
      115            120            125
Leu Ala Tyr Thr His Ile Leu Met Glu
      130            135

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<210> 74

<211> 1635

<212> DNA

<213> Saccharomyces cerevisiae

<400> 74

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attatctttg tatgtgctgt aatactgagg tgcacaattg gacttggtcc atattctggg 180
aaaggcagtc caccgctgta cggcgatttt gaggctcaga gacattggat ggaaattacg 240

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caacatttac cgcttttctaa gtggtactgg tatgatttgc aatactgggg attggactat 300
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tcttggtttg cactagaaaa gtcacgtggc tttgaatccc ccgataatgg cctgaaaaca 420
tatatgcgtt ctactgtcat cattagcgac atattgtttt actttcctgc agtaatatac 480
tttactaagt ggcttggtag atatcgaaac cagtcgcca taggacaatc tattgcggca 540
tcagcgattt tgttccaacc ttcattaatg ctcatgacc atgggcactt tcaatataat 600
tcagtcatgc ttggccttac tgcttatgcc ataaataact tattagatga gtattatgct 660
atggcgggccg tttgttttgt cctatccatt tgttttaaac aaatggcatt gtattatgca 720
ccgatttttt ttgcttatct attaagtcga tcattgctgt tcccaaatt taacatagct 780
agattgacgg ttattgcgtt tgcaacactc gcaacttttg ctataatatt tgcgccatta 840
tatttcttgg gaggaggatt aaagaatatt caccaatgta ttcacaggat attccctttt 900
gccaggggca tcttcgaaga caaggttgct aacttctggt gcgttacgaa cgtgtttgta 960
aaatacaagg aaagattcac tatacaacaa ctccagctat attcattgat tgccaccgtg 1020
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tacgtgttaa tcgcatgttc gatgtccttt tttcttttta gctttcaagt acatgagaaa 1140
actatcctca tcccactttt gcctattaca ctactctact cctctactga ttggaatggt 1200
ctatctcttg taagttggat aaacaatgtg gctttgttta cgctatggcc tttgttgaaa 1260
aaggacggtc ttcatttaca gtatgccgta tctttcttac taagcaattg gctgattgga 1320
aatttcagtt ttattacacc aaggttcttg ccaaaatctt taactcctgg cccttctatc 1380
agcagcatca atagcgacta tagaagaaga agcttactgc catataatgt ggtttgaaa 1440
agttttatca taggaacgta tattgctatg ggcttttata atttcttaga tcaatttgta 1500
gcacctccat cgaaatatcc agacttggtg gtgttggtga actgtgctgt tgggttcatt 1560
tgcttttagca tattttggct atggtcttat tacaagatat tcacttccgg tagcaaatcc 1620
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<210> 75

<211> 544

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 75

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Met Ala Ile Gly Lys Arg Leu Leu Val Asn Lys Pro Ala Glu Glu Ser
 1           5           10           15
Phe Tyr Ala Ser Pro Met Tyr Asp Phe Leu Tyr Pro Phe Arg Pro Val
          20           25           30
Gly Asn Gln Trp Leu Pro Glu Tyr Ile Ile Phe Val Cys Ala Val Ile
        35           40           45

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Leu	Arg	Cys	Thr	Ile	Gly	Leu	Gly	Pro	Tyr	Ser	Gly	Lys	Gly	Ser	Pro
50						55					60				
Pro	Leu	Tyr	Gly	Asp	Phe	Glu	Ala	Gln	Arg	His	Trp	Met	Glu	Ile	Thr
65					70				75					80	
Gln	His	Leu	Pro	Leu	Ser	Lys	Trp	Tyr	Trp	Tyr	Asp	Leu	Gln	Tyr	Trp
				85				90					95		
Gly	Leu	Asp	Tyr	Pro	Pro	Leu	Thr	Ala	Phe	His	Ser	Tyr	Leu	Leu	Gly
			100					105					110		
Leu	Ile	Gly	Ser	Phe	Phe	Asn	Pro	Ser	Trp	Phe	Ala	Leu	Glu	Lys	Ser
			115				120					125			
Arg	Gly	Phe	Glu	Ser	Pro	Asp	Asn	Gly	Leu	Lys	Thr	Tyr	Met	Arg	Ser
			130				135					140			
Thr	Val	Ile	Ile	Ser	Asp	Ile	Leu	Phe	Tyr	Phe	Pro	Ala	Val	Ile	Tyr
145					150				155					160	
Phe	Thr	Lys	Trp	Leu	Gly	Arg	Tyr	Arg	Asn	Gln	Ser	Pro	Ile	Gly	Gln
				165				170					175		
Ser	Ile	Ala	Ala	Ser	Ala	Ile	Leu	Phe	Gln	Pro	Ser	Leu	Met	Leu	Ile
			180					185					190		
Asp	His	Gly	His	Phe	Gln	Tyr	Asn	Ser	Val	Met	Leu	Gly	Leu	Thr	Ala
			195				200					205			
Tyr	Ala	Ile	Asn	Asn	Leu	Leu	Asp	Glu	Tyr	Tyr	Ala	Met	Ala	Ala	Val
			210			215					220				
Cys	Phe	Val	Leu	Ser	Ile	Cys	Phe	Lys	Gln	Met	Ala	Leu	Tyr	Tyr	Ala
225					230				235					240	
Pro	Ile	Phe	Phe	Ala	Tyr	Leu	Leu	Ser	Arg	Ser	Leu	Leu	Phe	Pro	Lys
				245					250				255		
Phe	Asn	Ile	Ala	Arg	Leu	Thr	Val	Ile	Ala	Phe	Ala	Thr	Leu	Ala	Thr
			260					265					270		
Phe	Ala	Ile	Ile	Phe	Ala	Pro	Leu	Tyr	Phe	Leu	Gly	Gly	Gly	Leu	Lys
			275				280					285			
Asn	Ile	His	Gln	Cys	Ile	His	Arg	Ile	Phe	Pro	Phe	Ala	Arg	Gly	Ile
			290			295					300				
Phe	Glu	Asp	Lys	Val	Ala	Asn	Phe	Trp	Cys	Val	Thr	Asn	Val	Phe	Val
305					310				315					320	
Lys	Tyr	Lys	Glu	Arg	Phe	Thr	Ile	Gln	Gln	Leu	Gln	Leu	Tyr	Ser	Leu
				325					330				335		
Ile	Ala	Thr	Val	Ile	Gly	Phe	Leu	Pro	Ala	Met	Ile	Met	Thr	Leu	Leu

340	345	350
His Pro Lys Lys His Leu Leu Pro Tyr Val Leu Ile Ala Cys Ser Met		
355	360	365
Ser Phe Phe Leu Phe Ser Phe Gln Val His Glu Lys Thr Ile Leu Ile		
370	375	380
Pro Leu Leu Pro Ile Thr Leu Leu Tyr Ser Ser Thr Asp Trp Asn Val		
385	390	395
Leu Ser Leu Val Ser Trp Ile Asn Asn Val Ala Leu Phe Thr Leu Trp		
405	410	415
Pro Leu Leu Lys Lys Asp Gly Leu His Leu Gln Tyr Ala Val Ser Phe		
420	425	430
Leu Leu Ser Asn Trp Leu Ile Gly Asn Phe Ser Phe Ile Thr Pro Arg		
435	440	445
Phe Leu Pro Lys Ser Leu Thr Pro Gly Pro Ser Ile Ser Ser Ile Asn		
450	455	460
Ser Asp Tyr Arg Arg Arg Ser Leu Leu Pro Tyr Asn Val Val Trp Lys		
465	470	475
Ser Phe Ile Ile Gly Thr Tyr Ile Ala Met Gly Phe Tyr His Phe Leu		
485	490	495
Asp Gln Phe Val Ala Pro Pro Ser Lys Tyr Pro Asp Leu Trp Val Leu		
500	505	510
Leu Asn Cys Ala Val Gly Phe Ile Cys Phe Ser Ile Phe Trp Leu Trp		
515	520	525
Ser Tyr Tyr Lys Ile Phe Thr Ser Gly Ser Lys Ser Met Lys Asp Leu		
530	535	540

<210> 76

<211> 1644

<212> DNA

<213> *Pichia pastoris*

<400> 76

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 gtagcacgat acatcatcat catctttgca attctcatca gattggcagt tgggctgggc 180
 tcctattccg gcttcaacac cctccaatg tatggggatt ttgaagctca gaggcattgg 240

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atggaaatta ctcagcattt atccatagaa aaatgggtact tctacgactt gcaatattgg 300
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ttcatcaatc cagcatgggt tgcttttagac gtctccagag ggtttgaatc agtggatcta 420
aaatcgtaaa tgagggcgac cgcaattctc agtgagctgt tatgttttat tccagctgtc 480
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ataatagcgt ctgctattct tttcaatcca tctttaatta tcatagatca tggccacttc 600
cagtacaact cagttatgct aggttttgct ttattatcca tattaaatct gttgtacgat 660
aattttgcat tagcggctat ttttttcggt ctttcaataa gctttaagca aatggctctc 720
tattatagcc ccatcatggt tttttacatg ctgagtgtga gttgttggcc tttgaaaaac 780
ttcaacttgt tgagattggc tactatcagt attgcagtac tcttgacttt tgcaactcta 840
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ttcccgtttt caagaggctt gtttgaggat aaggtggcca acttttggtg tacaacgaat 960
atactggtaa agtacaacaa gttattcact gacaaaaccc ttactaggat atcgctagta 1020
gcaactttga ttgcaattag tccgtcttgc ttcatcattt ttactcacc aaagaagggt 1080
ttactaccgt gggcttttgc tgcttgctct tgggcgttct atcttttctc tttccaagtc 1140
cacgagaaat cagtttttagt tccattgatg cctaccactc tattactggg agaaaaagac 1200
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ctgattggaa acctcaattg gattagtaaa tggcttgtcc ccagtttctt gattccaggg 1380
cctactctct ccaaaaaagt tcctaaaaga gatactaaaa cagttgttca tactcactgg 1440
ttttgggggt cagtaacatt cgtttcatac ctcgagcta cagttatcca gttcgtagat 1500
tggtgttacc ttccacctgc caagtatcca gatttgtggg ttattttgaa cactacattg 1560
tcgtttgctt gtttcgggtt gttttggcta tggattaact acaatctgta cattttgcgt 1620
gattttaagc ttaaagatgc ttag - 1644

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<210> 77

<211> 547

<212> PRT

<213> *Pichia pastoris*

<400> 77

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Pro Gly Ile Ser Phe Glu Asn Ser Pro Val Phe Asp Phe Leu Ser Pro
          20             25             30
Phe Gly Pro Ala Pro Asn Gln Trp Val Ala Arg Tyr Ile Ile Ile Ile
          35             40             45

```

Phe Ala Ile Leu Ile Arg Leu Ala Val Gly Leu Gly Ser Tyr Ser Gly
 50 55 60
 Phe Asn Thr Pro Pro Met Tyr Gly Asp Phe Glu Ala Gln Arg His Trp
 65 70 75 80
 Met Glu Ile Thr Gln His Leu Ser Ile Glu Lys Trp Tyr Phe Tyr Asp
 85 90 95
 Leu Gln Tyr Trp Gly Leu Asp Tyr Pro Pro Leu Thr Ala Phe His Ser
 100 105 110
 Tyr Phe Phe Gly Lys Leu Gly Ser Phe Ile Asn Pro Ala Trp Phe Ala
 115 120 125
 Leu Asp Val Ser Arg Gly Phe Glu Ser Val Asp Leu Lys Ser Tyr Met
 130 135 140
 Arg Ala Thr Ala Ile Leu Ser Glu Leu Leu Cys Phe Ile Pro Ala Val
 145 150 155 160
 Ile Trp Tyr Cys Arg Trp Met Gly Leu Asn Tyr Phe Asn Gln Asn Ala
 165 170 175
 Ile Glu Gln Thr Ile Ile Ala Ser Ala Ile Leu Phe Asn Pro Ser Leu
 180 185 190
 Ile Ile Ile Asp His Gly His Phe Gln Tyr Asn Ser Val Met Leu Gly
 195 200 205
 Phe Ala Leu Leu Ser Ile Leu Asn Leu Leu Tyr Asp Asn Phe Ala Leu
 210 215 220
 Ala Ala Ile Phe Phe Val Leu Ser Ile Ser Phe Lys Gln Met Ala Leu
 225 230 235 240
 Tyr Tyr Ser Pro Ile Met Phe Phe Tyr Met Leu Ser Val Ser Cys Trp
 245 250 255
 Pro Leu Lys Asn Phe Asn Leu Leu Arg Leu Ala Thr Ile Ser Ile Ala
 260 265 270
 Val Leu Leu Thr Phe Ala Thr Leu Leu Leu Pro Phe Val Leu Val Asp
 275 280 285
 Gly Met Ser Gln Ile Gly Gln Ile Leu Phe Arg Val Phe Pro Phe Ser
 290 295 300
 Arg Gly Leu Phe Glu Asp Lys Val Ala Asn Phe Trp Cys Thr Thr Asn
 305 310 315 320
 Ile Leu Val Lys Tyr Lys Gln Leu Phe Thr Asp Lys Thr Leu Thr Arg
 325 330 335
 Ile Ser Leu Val Ala Thr Leu Ile Ala Ile Ser Pro Ser Cys Phe Ile

```

          340              345              350
Ile Phe Thr His Pro Lys Lys Val Leu Leu Pro Trp Ala Phe Ala Ala
          355              360              365
Cys Ser Trp Ala Phe Tyr Leu Phe Ser Phe Gln Val His Glu Lys Ser
          370              375              380
Val Leu Val Pro Leu Met Pro Thr Thr Leu Leu Leu Val Glu Lys Asp
385              390              395              400
Leu Asp Ile Ile Ser Met Val Cys Trp Ile Ser Asn Ile Ala Phe Phe
          405              410              415
Ser Met Trp Pro Leu Leu Lys Arg Asp Gly Leu Ala Leu Glu Tyr Phe
          420              425              430
Val Leu Gly Ile Leu Ser Asn Trp Leu Ile Gly Asn Leu Asn Trp Ile
          435              440              445
Ser Lys Trp Leu Val Pro Ser Phe Leu Ile Pro Gly Pro Thr Leu Ser
          450              455              460
Lys Lys Val Pro Lys Arg Asp Thr Lys Thr Val Val His Thr His Trp
465              470              475              480
Phe Trp Gly Ser Val Thr Phe Val Ser Tyr Leu Gly Ala Thr Val Ile
          485              490              495
Gln Phe Val Asp Trp Leu Tyr Leu Pro Pro Ala Lys Tyr Pro Asp Leu
          500              505              510
Trp Val Ile Leu Asn Thr Thr Leu Ser Phe Ala Cys Phe Gly Leu Phe
          515              520              525
Trp Leu Trp Ile Asn Tyr Asn Leu Tyr Ile Leu Arg Asp Phe Lys Leu
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Lys Asp Ala
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<210> 78

<211> 527

<212> PRT

<213> *Pichia pastoris*

<220>

<221> MOD_RES

<222> (23)...(37)

<223> Variable amino acid

<220>

<221> MOD_RES

<222> (366)...(378)

<223> Variable amino acid

<400> 78

Ser	Phe	Glu	Asn	Ser	Pro	Val	Phe	Asp	Phe	Leu	Ser	Pro	Phe	Gly	Pro
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Ala	Pro	Asn	Gln	Trp	Val	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
			20					25						30	
Xaa	Xaa	Xaa	Xaa	Xaa	Val	Gly	Leu	Gly	Ser	Tyr	Ser	Gly	Phe	Asn	Thr
			35					40						45	
Pro	Pro	Met	Tyr	Gly	Asp	Phe	Glu	Ala	Gln	Arg	His	Trp	Met	Glu	Ile
		50					55					60			
Thr	Gln	His	Leu	Ser	Ile	Glu	Lys	Trp	Tyr	Phe	Tyr	Asp	Leu	Gln	Tyr
65					70					75					80
Trp	Gly	Leu	Asp	Tyr	Pro	Pro	Leu	Thr	Ala	Phe	His	Ser	Tyr	Phe	Phe
				85					90						95
Gly	Lys	Leu	Gly	Ser	Phe	Ile	Asn	Pro	Ala	Trp	Phe	Ala	Leu	Asp	Val
			100					105						110	
Ser	Arg	Gly	Phe	Glu	Ser	Val	Asp	Leu	Lys	Ser	Tyr	Met	Arg	Ala	Thr
			115					120					125		
Ala	Ile	Leu	Ser	Glu	Leu	Leu	Cys	Phe	Ile	Pro	Ala	Val	Ile	Trp	Tyr
		130					135					140			
Cys	Arg	Trp	Met	Gly	Leu	Asn	Tyr	Phe	Asn	Gln	Asn	Ala	Ile	Glu	Gln
145					150					155					160
Thr	Ile	Ile	Ala	Ser	Ala	Ile	Leu	Phe	Asn	Pro	Ser	Leu	Ile	Ile	Ile
				165					170					175	
Asp	His	Gly	His	Phe	Gln	Tyr	Asn	Ser	Val	Met	Leu	Gly	Phe	Ala	Leu
			180					185						190	
Leu	Ser	Ile	Leu	Asn	Leu	Leu	Tyr	Asp	Asn	Phe	Ala	Leu	Ala	Ala	Ile
			195					200						205	
Phe	Phe	Val	Leu	Ser	Ile	Ser	Phe	Lys	Gln	Met	Ala	Leu	Tyr	Tyr	Ser
			210				215							220	
Pro	Ile	Met	Phe	Phe	Tyr	Met	Leu	Ser	Val	Ser	Cys	Trp	Pro	Leu	Lys

225		230		235		240
Asn Phe Asn Leu Leu Arg Leu Ala Thr Ile Ser Ile Ala Val Leu Leu						
	245		250		255	
Thr Phe Ala Thr Leu Leu Leu Pro Phe Val Leu Val Asp Gly Met Ser						
	260		265		270	
Gln Ile Gly Gln Ile Leu Phe Arg Val Phe Pro Phe Ser Arg Gly Leu						
	275		280		285	
Phe Glu Asp Lys Val Ala Asn Phe Trp Cys Thr Thr Asn Ile Leu Val						
	290		295		300	
Lys Tyr Lys Gln Leu Phe Thr Asp Lys Thr Leu Thr Arg Ile Ser Leu						
305		310		315		320
Val Ala Thr Leu Ile Ala Ile Ser Pro Ser Cys Phe Ile Ile Phe Thr						
	325		330		335	
His Pro Lys Lys Val Leu Leu Pro Trp Ala Phe Ala Ala Cys Ser Trp						
	340		345		350	
Ala Phe Tyr Leu Phe Ser Phe Gln Val His Glu Lys Ser Xaa Xaa Xaa						
	355		360		365	
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Glu Lys Asp Leu Asp Ile						
	370		375		380	
Ile Ser Met Val Cys Trp Ile Ser Asn Ile Ala Phe Phe Ser Met Trp						
385		390		395		400
Pro Leu Leu Lys Arg Asp Gly Leu Ala Leu Glu Tyr Phe Val Leu Gly						
	405		410		415	
Ile Leu Ser Asn Trp Leu Ile Gly Asn Leu Asn Trp Ile Ser Lys Trp						
	420		425		430	
Leu Val Pro Ser Phe Leu Ile Pro Gly Pro Thr Leu Ser Lys Lys Val						
	435		440		445	
Pro Lys Arg Asp Thr Lys Thr Val Val His Thr His Trp Phe Trp Gly						
	450		455		460	
Ser Val Thr Phe Val Ser Tyr Leu Gly Ala Thr Val Ile Gln Phe Val						
465		470		475		480
Asp Trp Leu Tyr Leu Pro Pro Ala Lys Tyr Pro Asp Leu Trp Val Ile						
	485		490		495	
Leu Asn Thr Thr Leu Ser Phe Ala Cys Phe Gly Leu Phe Trp Leu Trp						
	500		505		510	
Ile Asn Tyr Asn Leu Tyr Ile Leu Arg Asp Phe Lys Leu Lys Asp						
	515		520		525	

<210> 79

<211> 528

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 79

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             20             25             30
Ile Leu Arg Cys Thr Ile Gly Leu Gly Pro Tyr Ser Gly Lys Gly Ser
             35             40             45
Pro Pro Leu Tyr Gly Asp Phe Glu Ala Gln Arg His Trp Met Glu Ile
             50             55             60
Thr Gln His Leu Pro Leu Ser Lys Trp Tyr Trp Tyr Asp Leu Gln Tyr
65             70             75             80
Trp Gly Leu Asp Tyr Pro Pro Leu Thr Ala Phe His Ser Tyr Leu Leu
             85             90             95
Gly Leu Ile Gly Ser Phe Phe Asn Pro Ser Trp Phe Ala Leu Glu Lys
             100            105            110
Ser Arg Gly Phe Glu Ser Pro Asp Asn Gly Leu Lys Thr Tyr Met Arg
             115            120            125
Ser Thr Val Ile Ile Ser Asp Ile Leu Phe Tyr Phe Pro Ala Val Ile
             130            135            140
Tyr Phe Thr Lys Trp Leu Gly Arg Tyr Arg Asn Gln Ser Pro Ile Gly
145            150            155            160
Gln Ser Ile Ala Ala Ser Ala Ile Leu Phe Gln Pro Ser Leu Met Leu
             165            170            175
Ile Asp His Gly His Phe Gln Tyr Asn Ser Val Met Leu Gly Leu Thr
             180            185            190
Ala Tyr Ala Ile Asn Asn Leu Leu Asp Glu Tyr Tyr Ala Met Ala Ala
             195            200            205
Val Cys Phe Val Leu Ser Ile Cys Phe Lys Gln Met Ala Leu Tyr Tyr
             210            215            220
Ala Pro Ile Phe Phe Ala Tyr Leu Leu Ser Arg Ser Leu Leu Phe Pro

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225		230		235		240
Lys Phe Asn Ile	Ala Arg Leu Thr Val	Ile Ala Phe Ala Thr	Leu Ala			
	245		250		255	
Thr Phe Ala Ile	Ile Phe Ala Pro Leu Tyr	Phe Leu Gly Gly	Gly Leu			
	260		265		270	
Lys Asn Ile His	Gln Cys Ile His Arg Ile	Phe Pro Phe Ala Arg	Gly			
	275		280		285	
Ile Phe Glu Asp	Lys Val Ala Asn Phe Trp Cys	Val Thr Asn Val	Phe			
	290		295		300	
Val Lys Tyr Lys	Glu Arg Phe Thr Ile Gln Gln	Leu Gln Leu Tyr	Ser			
305		310		315		320
Leu Ile Ala Thr	Val Ile Gly Phe Leu Pro Ala	Met Ile Met Thr	Leu			
	325		330		335	
Leu His Pro Lys	Lys His Leu Leu Pro Tyr Val	Leu Ile Ala Cys	Ser			
	340		345		350	
Met Ser Phe Phe	Leu Phe Ser Phe Gln Val His	Glu Lys Thr Ile	Leu			
	355		360		365	
Ile Pro Leu Leu	Pro Ile Thr Leu Leu Tyr Ser	Ser Thr Asp Trp	Asn			
	370		375		380	
Val Leu Ser Leu	Val Ser Trp Ile Asn Asn Val	Ala Leu Phe Thr	Leu			
385		390		395		400
Trp Pro Leu Leu	Lys Lys Asp Gly Leu His Leu	Gln Tyr Ala Val	Ser			
	405		410		415	
Phe Leu Leu Ser	Asn Trp Leu Ile Gly Asn Phe	Ser Phe Ile Thr	Pro			
	420		425		430	
Arg Phe Leu Pro	Lys Ser Leu Thr Pro Gly Pro	Ser Ile Ser Ser	Ile			
	435		440		445	
Asn Ser Asp Tyr	Arg Arg Arg Ser Leu Leu Pro	Tyr Asn Val Val	Trp			
	450		455		460	
Lys Ser Phe Ile	Ile Gly Thr Tyr Ile Ala Met	Gly Phe Tyr His	Phe			
465		470		475		480
Leu Asp Gln Phe	Val Ala Pro Pro Ser Lys Tyr	Pro Asp Leu Trp	Val			
	485		490		495	
Leu Leu Asn Cys	Ala Val Gly Phe Ile Cys Phe	Ser Ile Phe Trp	Leu			
	500		505		510	
Trp Ser Tyr Tyr	Lys Ile Phe Thr Ser Gly Ser	Lys Ser Met Lys	Asp			
	515		520		525	

<210> 80
 <211> 511
 <212> PRT
 <213> *Pichia pastoris*

<220>
 <221> MOD_RES
 <222> (22)...(36)
 <223> Variable amino acid

<220>
 <221> MOD_RES
 <222> (365)...(379)
 <223> Variable amino acid

<400> 80
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 20 25 30
 Xaa Xaa Xaa Xaa Val Gly Leu Gly Ser Tyr Ser Gly Phe Asn Thr Pro
 35 40 45
 Pro Met Tyr Gly Asp Phe Glu Ala Gln Arg His Trp Met Glu Ile Thr
 50 55 60
 Gln His Leu Ser Ile Glu Lys Trp Tyr Phe Tyr Asp Leu Gln Tyr Trp
 65 70 75 80
 Gly Leu Asp Tyr Pro Pro Leu Thr Ala Phe His Ser Tyr Phe Phe Gly
 85 90 95
 Lys Leu Gly Ser Phe Ile Asn Pro Ala Trp Phe Ala Leu Asp Val Ser
 100 105 110
 Arg Gly Phe Glu Ser Val Asp Leu Lys Ser Tyr Met Arg Ala Thr Ala
 115 120 125
 Ile Leu Ser Glu Leu Leu Cys Phe Ile Pro Ala Val Ile Trp Tyr Cys
 130 135 140
 Arg Trp Met Gly Leu Asn Tyr Phe Asn Gln Asn Ala Ile Glu Gln Thr

145	150	155	160
Ile Ile Ala Ser Ala Ile Leu Phe Asn Pro Ser Leu Ile Ile Ile Asp			
	165	170	175
His Gly His Phe Gln Tyr Asn Ser Val Met Leu Gly Phe Ala Leu Leu			
	180	185	190
Ser Ile Leu Asn Leu Leu Tyr Asp Asn Phe Ala Leu Ala Ala Ile Phe			
	195	200	205
Phe Val Leu Ser Ile Ser Phe Lys Gln Met Ala Leu Tyr Tyr Ser Pro			
	210	215	220
Ile Met Phe Phe Tyr Met Leu Ser Val Ser Cys Trp Pro Leu Lys Asn			
225	230	235	240
Phe Asn Leu Leu Arg Leu Ala Thr Ile Ser Ile Ala Val Leu Leu Thr			
	245	250	255
Phe Ala Thr Leu Leu Leu Pro Phe Val Leu Val Asp Gly Met Ser Gln			
	260	265	270
Ile Gly Gln Ile Leu Phe Arg Val Phe Pro Phe Ser Arg Gly Leu Phe			
	275	280	285
Glu Asp Lys Val Ala Asn Phe Trp Cys Thr Thr Asn Ile Leu Val Lys			
	290	295	300
Tyr Lys Gln Leu Phe Thr Asp Lys Thr Leu Thr Arg Ile Ser Leu Val			
305	310	315	320
Ala Thr Leu Ile Ala Ile Ser Pro Ser Cys Phe Ile Ile Phe Thr His			
	325	330	335
Pro Lys Lys Val Leu Leu Pro Trp Ala Phe Ala Ala Cys Ser Trp Ala			
	340	345	350
Phe Tyr Leu Phe Ser Phe Gln Val His Glu Lys Ser Xaa Xaa Xaa Xaa			
	355	360	365
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Glu Lys Asp Leu Asp Ile Ile			
	370	375	380
Ser Met Val Cys Trp Ile Ser Asn Ile Ala Phe Phe Ser Met Trp Pro			
385	390	395	400
Leu Leu Lys Arg Asp Gly Leu Ala Leu Glu Tyr Phe Val Leu Gly Ile			
	405	410	415
Leu Ser Asn Trp Leu Ile Gly Asn Leu Asn Trp Ile Ser Lys Trp Leu			
	420	425	430
Val Pro Ser Phe Leu Ile Pro Gly Pro Thr Leu Ser Lys Lys Val Pro			
	435	440	445

Lys Arg Asp Thr Lys Thr Val Val His Thr His Trp Phe Trp Gly Ser
 450 455 460
 Val Thr Phe Val Ser Tyr Leu Gly Ala Thr Val Ile Gln Phe Val Asp
 465 470 475 480
 Trp Leu Tyr Leu Pro Pro Ala Lys Tyr Pro Asp Leu Trp Val Ile Leu
 485 490 495
 Asn Thr Thr Leu Ser Phe Ala Cys Phe Gly Leu Phe Trp Leu Trp
 500 505 510

<210> 81

<211> 480

<212> PRT

<213> Schizosaccharomyces pombe

<400> 81

Phe Glu Asn Gly Ala Pro Val Gln Gln Phe Val Ser Arg Phe Arg Ser
 1 5 10 15
 Tyr Ser Ser Lys Phe Leu Phe Phe Pro Cys Leu Ile Met Ser Leu Val
 20 25 30
 Phe Met Gln Trp Leu Ile Ser Ile Gly Pro Tyr Ser Gly Tyr Asn Thr
 35 40 45
 Pro Pro Met Tyr Gly Asp Phe Glu Ala Gln Arg His Trp Met Glu Leu
 50 55 60
 Thr Leu His Thr Pro Val Ser Gln Trp Tyr Phe Arg Asp Leu Gln Trp
 65 70 75 80
 Trp Gly Leu Asp Tyr Pro Pro Leu Thr Ala Tyr Val Ser Trp Phe Phe
 85 90 95
 Gly Ile Ile Gly His Tyr Phe Phe Asn Pro Glu Trp Phe Ala Asp Val
 100 105 110
 Thr Ser Arg Gly Phe Glu Ser Leu Glu Leu Lys Leu Phe Met Arg Ser
 115 120 125
 Thr Val Ile Ala Ser His Leu Leu Ile Leu Val Pro Pro Leu Met Phe
 130 135 140
 Tyr Ser Lys Trp Trp Ser Arg Arg Ile Pro Asn Phe Val Asp Arg Asn
 145 150 155 160
 Ala Ser Leu Ile Met Val Leu Phe Gln Pro Ala Leu Leu Leu Ile Asp

					165						170					175			
His	Gly	His	Phe	Gln	Tyr	Asn	Cys	Val	Met	Leu	Gly	Leu	Val	Met	Tyr				
				180						185					190				
Ala	Ile	Ala	Asn	Leu	Leu	Lys	Asn	Gln	Tyr	Val	Ala	Ala	Thr	Phe	Phe				
				195						200					205				
Phe	Cys	Leu	Ala	Leu	Thr	Phe	Lys	Gln	Met	Ala	Leu	Tyr	Phe	Ala	Pro				
				210						215					220				
Pro	Ile	Phe	Phe	Tyr	Leu	Leu	Gly	Thr	Cys	Val	Lys	Pro	Lys	Ile	Arg				
225						230					235				240				
Phe	Ser	Arg	Phe	Ile	Leu	Leu	Ser	Val	Thr	Val	Val	Phe	Thr	Phe	Ser				
				245							250				255				
Leu	Ile	Leu	Phe	Pro	Trp	Ile	Tyr	Met	Asp	Tyr	Lys	Thr	Leu	Leu	Pro				
				260						265					270				
Gln	Ile	Leu	His	Arg	Val	Phe	Pro	Phe	Ala	Arg	Gly	Leu	Trp	Glu	Asp				
				275						280					285				
Lys	Val	Ala	Asn	Phe	Trp	Cys	Thr	Leu	Asn	Thr	Val	Phe	Lys	Ile	Arg				
				290						295					300				
Glu	Val	Phe	Thr	Leu	His	Gln	Leu	Gln	Val	Ile	Ser	Leu	Ile	Phe	Thr				
305						310					315				320				
Leu	Ile	Ser	Ile	Leu	Pro	Ser	Cys	Val	Ile	Leu	Phe	Leu	Tyr	Pro	Arg				
				325							330				335				
Lys	Arg	Leu	Leu	Ala	Leu	Gly	Phe	Ala	Ser	Ala	Ser	Trp	Gly	Phe	Phe				
				340						345					350				
Leu	Phe	Ser	Phe	Gln	Val	His	Glu	Lys	Ser	Val	Leu	Leu	Pro	Leu	Leu				
				355						360					365				
Pro	Thr	Ser	Ile	Leu	Leu	Cys	His	Gly	Asn	Ile	Thr	Thr	Lys	Pro	Trp				
				370						375					380				
Ile	Ala	Leu	Ala	Asn	Asn	Leu	Ala	Val	Phe	Ser	Leu	Trp	Pro	Leu	Leu				
385						390					395				400				
Lys	Lys	Asp	Gly	Leu	Gly	Leu	Gln	Tyr	Phe	Thr	Leu	Val	Leu	Met	Trp				
				405							410				415				
Asn	Trp	Ile	Gly	Asp	Met	Val	Val	Phe	Ser	Lys	Asn	Val	Leu	Phe	Arg				
				420						425					430				
Phe	Ile	Gln	Leu	Ser	Phe	Tyr	Val	Gly	Met	Ile	Val	Ile	Leu	Gly	Ile				
				435						440					445				
Asp	Leu	Phe	Ile	Pro	Pro	Pro	Ser	Arg	Tyr	Pro	Asp	Leu	Trp	Val	Ile				
				450						455					460				

Leu Asn Val Thr Leu Ser Phe Ala Gly Phe Phe Thr Ile Tyr Leu Trp
 465 470 475 480

<210> 82

<211> 477

<212> PRT

<213> *Pichia pastoris*

<220>

<221> MOD_RES

<222> (329)...(341)

<223> Variable amino acid

<400> 82

Val Gly Leu Gly Ser Tyr Ser Gly Phe Asn Thr Pro Pro Met Tyr Gly
 1 5 10 15
 Asp Phe Glu Ala Gln Arg His Trp Met Glu Ile Thr Gln His Leu Ser
 20 25 30
 Ile Glu Lys Trp Tyr Phe Tyr Asp Leu Gln Tyr Trp Gly Leu Asp Tyr
 35 40 45
 Pro Pro Leu Thr Ala Phe His Ser Tyr Phe Phe Gly Lys Leu Gly Ser
 50 55 60
 Phe Ile Asn Pro Ala Trp Phe Ala Leu Asp Val Ser Arg Gly Phe Glu
 65 70 75 80
 Ser Val Asp Leu Lys Ser Tyr Met Arg Ala Thr Ala Ile Leu Ser Glu
 85 90 95
 Leu Leu Cys Phe Ile Pro Ala Val Ile Trp Tyr Cys Arg Trp Met Gly
 100 105 110
 Leu Asn Tyr Phe Asn Gln Asn Ala Ile Glu Gln Thr Ile Ile Ala Ser
 115 120 125
 Ala Ile Leu Phe Asn Pro Ser Leu Ile Ile Ile Asp His Gly His Phe
 130 135 140
 Gln Tyr Asn Ser Val Met Leu Gly Phe Ala Leu Leu Ser Ile Leu Asn
 145 150 155 160
 Leu Leu Tyr Asp Asn Phe Ala Leu Ala Ala Ile Phe Phe Val Leu Ser
 165 170 175

Ile	Ser	Phe	Lys	Gln	Met	Ala	Leu	Tyr	Tyr	Ser	Pro	Ile	Met	Phe	Phe	180	185	190
Tyr	Met	Leu	Ser	Val	Ser	Cys	Trp	Pro	Leu	Lys	Asn	Phe	Asn	Leu	Leu	195	200	205
Arg	Leu	Ala	Thr	Ile	Ser	Ile	Ala	Val	Leu	Leu	Thr	Phe	Ala	Thr	Leu	210	215	220
Leu	Leu	Pro	Phe	Val	Leu	Val	Asp	Gly	Met	Ser	Gln	Ile	Gly	Gln	Ile	225	230	235
Leu	Phe	Arg	Val	Phe	Pro	Phe	Ser	Arg	Gly	Leu	Phe	Glu	Asp	Lys	Val	245	250	255
Ala	Asn	Phe	Trp	Cys	Thr	Thr	Asn	Ile	Leu	Val	Lys	Tyr	Lys	Gln	Leu	260	265	270
Phe	Thr	Asp	Lys	Thr	Leu	Thr	Arg	Ile	Ser	Leu	Val	Ala	Thr	Leu	Ile	275	280	285
Ala	Ile	Ser	Pro	Ser	Cys	Phe	Ile	Ile	Phe	Thr	His	Pro	Lys	Lys	Val	290	295	300
Leu	Leu	Pro	Trp	Ala	Phe	Ala	Ala	Cys	Ser	Trp	Ala	Phe	Tyr	Leu	Phe	305	310	315
Ser	Phe	Gln	Val	His	Glu	Lys	Ser	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	325	330	335
Xaa	Xaa	Xaa	Xaa	Xaa	Glu	Lys	Asp	Leu	Asp	Ile	Ile	Ser	Met	Val	Cys	340	345	350
Trp	Ile	Ser	Asn	Ile	Ala	Phe	Phe	Ser	Met	Trp	Pro	Leu	Leu	Lys	Arg	355	360	365
Asp	Gly	Leu	Ala	Leu	Glu	Tyr	Phe	Val	Leu	Gly	Ile	Leu	Ser	Asn	Trp	370	375	380
Leu	Ile	Gly	Asn	Leu	Asn	Trp	Ile	Ser	Lys	Trp	Leu	Val	Pro	Ser	Phe	385	390	395
Leu	Ile	Pro	Gly	Pro	Thr	Leu	Ser	Lys	Lys	Val	Pro	Lys	Arg	Asp	Thr	405	410	415
Lys	Thr	Val	Val	His	Thr	His	Trp	Phe	Trp	Gly	Ser	Val	Thr	Phe	Val	420	425	430
Ser	Tyr	Leu	Gly	Ala	Thr	Val	Ile	Gln	Phe	Val	Asp	Trp	Leu	Tyr	Leu	435	440	445
Pro	Pro	Ala	Lys	Tyr	Pro	Asp	Leu	Trp	Val	Ile	Leu	Asn	Thr	Thr	Leu	450	455	460
Ser	Phe	Ala	Cys	Phe	Gly	Leu	Phe	Trp	Leu	Trp	Ile	Asn						

465

470

475

<210> 83

<211> 448

<212> PRT

<213> *Drosophila melanogaster*

<400> 83,

Ile	Ser	Leu	Tyr	Ser	Tyr	Ser	Gly	Phe	Asp	Ser	Pro	Pro	Met	His	Gly
1				5					10					15	
Asp	Tyr	Glu	Ala	Gln	Arg	His	Trp	Gln	Glu	Ile	Thr	Val	Asn	Leu	Ala
			20					25					30		
Val	Gly	Glu	Trp	Tyr	Thr	Asn	Ser	Ser	Asn	Asn	Asp	Leu	Gln	Tyr	Trp
			35				40					45			
Gly	Leu	Asp	Tyr	Pro	Pro	Leu	Thr	Ala	Tyr	His	Ser	Tyr	Leu	Val	Gly
	50					55				60					
Arg	Ile	Gly	Ala	Ser	Ile	Asp	Pro	Arg	Phe	Val	Glu	Leu	His	Lys	Ser
65					70				75					80	
Arg	Gly	Phe	Glu	Ser	Lys	Glu	His	Lys	Arg	Phe	Met	Arg	Ala	Thr	Val
				85					90				95		
Val	Ser	Ala	Asp	Val	Leu	Ile	Tyr	Leu	Pro	Ala	Met	Leu	Leu	Leu	Ala
			100					105				110			
Tyr	Ser	Leu	Asp	Lys	Ala	Phe	Arg	Ser	Asp	Asp	Lys	Leu	Phe	Leu	Phe
		115					120				125				
Thr	Leu	Val	Ala	Ala	Tyr	Pro	Gly	Gln	Thr	Leu	Ile	Asp	Asn	Gly	His
		130				135					140				
Phe	Gln	Tyr	Asn	Asn	Ile	Ser	Leu	Gly	Phe	Ala	Ala	Val	Ala	Ile	Ala
145					150				155					160	
Ala	Ile	Leu	Arg	Arg	Arg	Phe	Tyr	Ala	Ala	Ala	Phe	Phe	Phe	Thr	Leu
			165					170				175			
Ala	Leu	Asn	Tyr	Lys	Gln	Met	Glu	Leu	Tyr	His	Ser	Leu	Pro	Phe	Phe
		180				185					190				
Ala	Phe	Leu	Leu	Gly	Glu	Cys	Val	Ser	Gln	Lys	Ser	Phe	Ala	Ser	Phe
	195					200					205				
Ile	Ala	Glu	Ile	Ser	Arg	Ile	Ala	Ala	Val	Val	Leu	Gly	Thr	Phe	Ala
	210					215					220				

Ile	Leu	Trp	Val	Pro	Trp	Leu	Gly	Ser	Leu	Gln	Ala	Val	Leu	Gln	Val
225					230					235					240
Leu	His	Arg	Leu	Phe	Pro	Val	Ala	Arg	Gly	Val	Phe	Glu	Asp	Lys	Val
			245						250					255	
Ala	Asn	Val	Trp	Cys	Ala	Val	Asn	Val	Val	Trp	Lys	Leu	Lys	Lys	His
			260						265					270	
Ile	Ser	Asn	Asp	Gln	Met	Ala	Leu	Val	Cys	Ile	Ala	Cys	Thr	Leu	Ile
		275						280						285	
Ala	Ser	Leu	Pro	Thr	Asn	Val	Leu	Leu	Phe	Arg	Arg	Arg	Thr	Asn	Val
		290					295					300			
Gly	Phe	Leu	Leu	Ala	Leu	Phe	Asn	Thr	Ser	Leu	Ala	Phe	Phe	Leu	Phe
305					310					315					320
Ser	Phe	Gln	Val	His	Glu	Lys	Thr	Ile	Leu	Leu	Thr	Ala	Leu	Pro	Ala
			325						330					335	
Leu	Phe	Leu	Leu	Lys	Cys	Trp	Pro	Asp	Glu	Met	Ile	Leu	Phe	Leu	Glu
			340						345					350	
Val	Thr	Val	Phe	Ser	Met	Leu	Pro	Leu	Leu	Ala	Arg	Asp	Glu	Leu	Leu
			355					360					365		
Val	Pro	Ala	Val	Val	Ala	Thr	Val	Ala	Phe	His	Leu	Ile	Phe	Lys	Cys
		370					375					380			
Phe	Asp	Ser	Lys	Ser	Lys	Leu	Ser	Asn	Glu	Tyr	Pro	Leu	Lys	Tyr	Ile
385					390					395					400
Ala	Asn	Ile	Ser	Gln	Ile	Leu	Met	Ile	Ser	Val	Val	Val	Ala	Ser	Leu
				405						410				415	
Thr	Val	Pro	Ala	Pro	Thr	Lys	Tyr	Pro	Asp	Leu	Trp	Pro	Leu	Ile	Ile
			420						425					430	
Ser	Val	Thr	Ser	Cys	Gly	His	Phe	Phe	Leu	Phe	Phe	Leu	Trp	Gly	Asn
		435					440						445		

<210> 84

<211> 478

<212> PRT

<213> *Pichia pastoris*

<220>

<221> MOD_RES

<222> (324)...(336)

<223> Variable amino acid

<400> 84

Tyr	Ser	Gly	Phe	Asn	Thr	Pro	Pro	Met	Tyr	Gly	Asp	Phe	Glu	Ala	Gln
1				5					10					15	
Arg	His	Trp	Met	Glu	Ile	Thr	Gln	His	Leu	Ser	Ile	Glu	Lys	Trp	Tyr
			20					25					30		
Phe	Tyr	Asp	Leu	Gln	Tyr	Trp	Gly	Leu	Asp	Tyr	Pro	Pro	Leu	Thr	Ala
			35				40					45			
Phe	His	Ser	Tyr	Phe	Phe	Gly	Lys	Leu	Gly	Ser	Phe	Ile	Asn	Pro	Ala
	50					55				60					
Trp	Phe	Ala	Leu	Asp	Val	Ser	Arg	Gly	Phe	Glu	Ser	Val	Asp	Leu	Lys
65					70				75					80	
Ser	Tyr	Met	Arg	Ala	Thr	Ala	Ile	Leu	Ser	Glu	Leu	Leu	Cys	Phe	Ile
				85				90					95		
Pro	Ala	Val	Ile	Trp	Tyr	Cys	Arg	Trp	Met	Gly	Leu	Asn	Tyr	Phe	Asn
			100					105					110		
Gln	Asn	Ala	Ile	Glu	Gln	Thr	Ile	Ile	Ala	Ser	Ala	Ile	Leu	Phe	Asn
			115				120					125			
Pro	Ser	Leu	Ile	Ile	Ile	Asp	His	Gly	His	Phe	Gln	Tyr	Asn	Ser	Val
			130			135				140					
Met	Leu	Gly	Phe	Ala	Leu	Leu	Ser	Ile	Leu	Asn	Leu	Leu	Tyr	Asp	Asn
145					150				155					160	
Phe	Ala	Leu	Ala	Ala	Ile	Phe	Phe	Val	Leu	Ser	Ile	Ser	Phe	Lys	Gln
				165				170					175		
Met	Ala	Leu	Tyr	Tyr	Ser	Pro	Ile	Met	Phe	Phe	Tyr	Met	Leu	Ser	Val
			180					185				190			
Ser	Cys	Trp	Pro	Leu	Lys	Asn	Phe	Asn	Leu	Leu	Arg	Leu	Ala	Thr	Ile
			195				200					205			
Ser	Ile	Ala	Val	Leu	Leu	Thr	Phe	Ala	Thr	Leu	Leu	Leu	Pro	Phe	Val
			210			215				220					
Leu	Val	Asp	Gly	Met	Ser	Gln	Ile	Gly	Gln	Ile	Leu	Phe	Arg	Val	Phe
225					230				235				240		
Pro	Phe	Ser	Arg	Gly	Leu	Phe	Glu	Asp	Lys	Val	Ala	Asn	Phe	Trp	Cys
				245					250				255		
Thr	Thr	Asn	Ile	Leu	Val	Lys	Tyr	Lys	Gln	Leu	Phe	Thr	Asp	Lys	Thr

260							265					270				
Leu	Thr	Arg	Ile	Ser	Leu	Val	Ala	Thr	Leu	Ile	Ala	Ile	Ser	Pro	Ser	
275							280					285				
Cys	Phe	Ile	Ile	Phe	Thr	His	Pro	Lys	Lys	Val	Leu	Leu	Pro	Trp	Ala	
290							295					300				
Phe	Ala	Ala	Cys	Ser	Trp	Ala	Phe	Tyr	Leu	Phe	Ser	Phe	Gln	Val	His	
305					310					315					320	
Glu	Lys	Ser	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	
325							330					335				
Glu	Lys	Asp	Leu	Asp	Ile	Ile	Ser	Met	Val	Cys	Trp	Ile	Ser	Asn	Ile	
340							345					350				
Ala	Phe	Phe	Ser	Met	Trp	Pro	Leu	Leu	Lys	Arg	Asp	Gly	Leu	Ala	Leu	
355							360					365				
Glu	Tyr	Phe	Val	Leu	Gly	Ile	Leu	Ser	Asn	Trp	Leu	Ile	Gly	Asn	Leu	
370							375					380				
Asn	Trp	Ile	Ser	Lys	Trp	Leu	Val	Pro	Ser	Phe	Leu	Ile	Pro	Gly	Pro	
385					390					395					400	
Thr	Leu	Ser	Lys	Lys	Val	Pro	Lys	Arg	Asp	Thr	Lys	Thr	Val	Val	His	
405							410					415				
Thr	His	Trp	Phe	Trp	Gly	Ser	Val	Thr	Phe	Val	Ser	Tyr	Leu	Gly	Ala	
420							425					430				
Thr	Val	Ile	Gln	Phe	Val	Asp	Trp	Leu	Tyr	Leu	Pro	Pro	Ala	Lys	Tyr	
435							440					445				
Pro	Asp	Leu	Trp	Val	Ile	Leu	Asn	Thr	Thr	Leu	Ser	Phe	Ala	Cys	Phe	
450							455					460				
Gly	Leu	Phe	Trp	Leu	Trp	Ile	Asn	Tyr	Asn	Leu	Tyr	Ile	Leu			
465					470					475						

<210> 85

<211> 459

<212> PRT

<213> Arabidopsis thaliana

<400> 85

Tyr Ser Gly Ala Gly Ile Pro Pro Lys Phe Gly Asp Phe Glu Ala Gln
1 5 10 15

Arg	His	Trp	Met	Glu	Ile	Thr	Thr	Asn	Leu	Pro	Val	Ile	Asp	Trp	Tyr			
				20				25					30					
Arg	Asn	Gly	Thr	Tyr	Asn	Asp	Leu	Thr	Tyr	Trp	Gly	Leu	Asp	Tyr	Pro			
		35					40					45						
Pro	Leu	Thr	Ala	Tyr	Gln	Ser	Tyr	Ile	His	Gly	Ile	Phe	Leu	Arg	Phe			
		50				55					60							
Phe	Asn	Pro	Glu	Ser	Val	Ala	Leu	Leu	Ser	Ser	Arg	Gly	His	Glu	Ser			
65					70				75					80				
Tyr	Leu	Gly	Lys	Leu	Leu	Met	Arg	Trp	Thr	Val	Leu	Ser	Ser	Asp	Ala			
			85					90						95				
Phe	Ile	Phe	Phe	Pro	Ala	Ala	Leu	Phe	Phe	Val	Leu	Val	Tyr	His	Arg			
			100					105					110					
Asn	Arg	Thr	Arg	Gly	Gly	Lys	Ser	Glu	Val	Ala	Trp	His	Ile	Ala	Met			
		115					120					125						
Ile	Leu	Leu	Asn	Pro	Cys	Leu	Ile	Leu	Ile	Asp	His	Gly	His	Phe	Gln			
		130				135					140							
Tyr	Asn	Cys	Ile	Ser	Leu	Gly	Leu	Thr	Val	Gly	Ala	Ile	Ala	Ala	Val			
145					150				155					160				
Leu	Cys	Glu	Ser	Glu	Val	Leu	Thr	Cys	Val	Leu	Phe	Ser	Leu	Ala	Leu			
			165					170					175					
Ser	His	Lys	Gln	Met	Ser	Ala	Tyr	Phe	Ala	Pro	Ala	Phe	Phe	Ser	His			
		180						185					190					
Leu	Leu	Gly	Lys	Cys	Leu	Arg	Arg	Lys	Ser	Pro	Ile	Leu	Ser	Val	Ile			
		195					200					205						
Lys	Leu	Gly	Ile	Ala	Val	Ile	Val	Thr	Phe	Val	Ile	Phe	Trp	Trp	Pro			
	210					215					220							
Tyr	Val	His	Ser	Leu	Asp	Asp	Phe	Leu	Met	Val	Leu	Ser	Arg	Leu	Ala			
225				230					235					240				
Pro	Phe	Glu	Arg	Gly	Ile	Tyr	Glu	Asp	Tyr	Val	Ala	Asn	Phe	Trp	Cys			
			245					250					255					
Thr	Thr	Ser	Ile	Leu	Ile	Lys	Trp	Lys	Asn	Leu	Phe	Thr	Thr	Gln	Ser			
		260						265					270					
Leu	Lys	Ser	Ile	Ser	Leu	Ala	Ala	Thr	Ile	Leu	Ala	Ser	Leu	Pro	Ser			
		275					280					285						
Met	Val	Gln	Gln	Ile	Leu	Ser	Pro	Ser	Asn	Glu	Gly	Phe	Leu	Tyr	Gly			
	290					295					300							
Leu	Leu	Asn	Ser	Ser	Met	Ala	Phe	Tyr	Leu	Phe	Ser	Phe	Gln	Val	His			

305	310	315	320
Glu Lys Ser Ile Leu Met Pro Phe Leu Ser Ala Thr Leu Leu Ala Leu			
	325	330	335
Lys Leu Pro Asp His Phe Ser His Leu Thr Tyr Tyr Ala Leu Phe Ser			
	340	345	350
Met Phe Pro Leu Leu Cys Arg Asp Lys Leu Leu Ile Pro Tyr Leu Thr			
	355	360	365
Leu Ser Phe Leu Phe Thr Val Ile Tyr His Ser Pro Gly Asn His His			
	370	375	380
Ala Ile Gln Lys Thr Asp Val Ser Phe Phe Ser Phe Lys Asn Phe Pro			
385	390	395	400
Gly Tyr Val Phe Leu Leu Arg Thr His Phe Phe Ile Ser Val Val Leu			
	405	410	415
His Val Leu Tyr Leu Thr Ile Lys Pro Pro Gln Lys Tyr Pro Phe Leu			
	420	425	430
Phe Glu Ala Leu Ile Met Ile Leu Cys Phe Ser Tyr Phe Ile Met Phe			
	435	440	445
Ala Phe Tyr Thr Asn Tyr Thr Gln Trp Thr Leu			
450	455		

<210> 86

<211> 836

<212> DNA

<213> *Kluveromyces lactis*

<400> 86

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atctctgttt caacagctct tgcattcatt gggtctttcg gtccaatcta tatcttttga 60
ggatacaaga acttagtgca atcaatgcac aggatttttc catttgccag gggatatctt 120
gaagataaag ttgcgaattt ttggtgcggt tctaataatt tcatcaaata tagaaatcta 180
ttcactcaga aggatcttca attataactca ttactcgcaa cagttatttg gctttttacca 240
tcattcatta taacatTTTT ataccgaag agacatttac taccatatgc tttggccgca 300
tggttcgatgt cattcttctt attcagcttc cagggtcatg aaaagacaat cttattacct 360
ttacttccta ttacactctt gtacacgtca agagattgga atgttctatc attggtttgt 420
tggaattaaca acgtggcatt gtttacactc tggccattac tgaaaaagga caatctagta 480
ttgcaatatg gagtcatgtt catgttttagc aattggttga tcggttaactt cagtttcgtc 540
acaccacgct tcctcccaaa atttttgaca ccagggccat ccatcagtga tatagatgtt 600

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gattatagac gggcaagttt actaccaag agcctaatat ggagattaat cattgttggc 660
 tcatatattg caatggggat tattcatttt ctagactatt acgtctcccc gccatcaaaa 720
 taccctgatt tatgggtgct tgccaattgt tccttgggct tctcatgttt tgtgacattt 780
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<210> 87

<211> 277

<212> PRT

<213> Kluveromyces lactis

<400> 87

Ile	Ser	Val	Ser	Thr	Ala	Leu	Ala	Phe	Ile	Gly	Ser	Phe	Gly	Pro	Ile
1				5					10					15	
Tyr	Ile	Phe	Gly	Gly	Tyr	Lys	Asn	Leu	Val	Gln	Ser	Met	His	Arg	Ile
			20					25					30		
Phe	Pro	Phe	Ala	Arg	Gly	Ile	Phe	Glu	Asp	Lys	Val	Ala	Asn	Phe	Trp
			35					40					45		
Cys	Val	Ser	Asn	Ile	Phe	Ile	Lys	Tyr	Arg	Asn	Leu	Phe	Thr	Gln	Lys
			50				55				60				
Asp	Leu	Gln	Leu	Tyr	Ser	Leu	Leu	Ala	Thr	Val	Ile	Gly	Leu	Leu	Pro
65					70					75					80
Ser	Phe	Ile	Ile	Thr	Phe	Leu	Tyr	Pro	Lys	Arg	His	Leu	Leu	Pro	Tyr
				85					90					95	
Ala	Leu	Ala	Ala	Cys	Ser	Met	Ser	Phe	Phe	Leu	Phe	Ser	Phe	Gln	Val
			100					105					110		
His	Glu	Lys	Thr	Ile	Leu	Leu	Pro	Leu	Leu	Pro	Ile	Thr	Leu	Leu	Tyr
			115				120					125			
Thr	Ser	Arg	Asp	Trp	Asn	Val	Leu	Ser	Leu	Val	Cys	Trp	Ile	Asn	Asn
			130				135					140			
Val	Ala	Leu	Phe	Thr	Leu	Trp	Pro	Leu	Leu	Lys	Lys	Asp	Asn	Leu	Val
145					150					155					160
Leu	Gln	Tyr	Gly	Val	Met	Phe	Met	Phe	Ser	Asn	Trp	Leu	Ile	Gly	Asn
				165				170					175		
Phe	Ser	Phe	Val	Thr	Pro	Arg	Phe	Leu	Pro	Lys	Phe	Leu	Thr	Pro	Gly
			180					185					190		
Pro	Ser	Ile	Ser	Asp	Ile	Asp	Val	Asp	Tyr	Arg	Arg	Ala	Ser	Leu	Leu
			195				200						205		

Pro Lys Ser Leu Ile Trp Arg Leu Ile Ile Val Gly Ser Tyr Ile Ala
 210 215 220
 Met Gly Ile Ile His Phe Leu Asp Tyr Tyr Val Ser Pro Pro Ser Lys
 225 230 235 240
 Tyr Pro Asp Leu Trp Val Leu Ala Asn Cys Ser Leu Gly Phe Ser Cys
 245 250 255
 Phe Val Thr Phe Trp Ile Trp Asn Asn Tyr Asn Tyr Ser Lys Glu Thr
 260 265 270
 Ala Leu Cys Lys Ile
 275

<210> 88
 <211> 284
 <212> PRT
 <213> Kluveromyces lactis

<220>
 <221> MOD_RES
 <222> (116)...(127)
 <223> Variable amino acid

<220>
 <221> MOD_RES
 <222> 271
 <223> Variable amino acid

<400> 88
 Ile Ser Val Ser Thr Ala Leu Ala Phe Ile Gly Ser Phe Gly Pro Ile
 1 5 10 15
 Tyr Ile Phe Gly Gly Tyr Lys Asn Leu Val Gln Ser Met His Arg Ile
 20 25 30
 Phe Pro Phe Ala Arg Gly Ile Phe Glu Asp Lys Val Ala Asn Phe Trp
 35 40 45
 Cys Val Ser Asn Ile Phe Ile Lys Tyr Arg Asn Leu Phe Thr Gln Lys
 50 55 60
 Asp Leu Gln Leu Tyr Ser Leu Leu Ala Thr Val Ile Gly Leu Leu Pro

65		70		75		80									
Ser	Phe	Ile	Ile	Thr	Phe	Leu	Tyr	Pro	Lys	Arg	His	Leu	Leu	Pro	Tyr
				85					90					95	
Ala	Leu	Ala	Ala	Cys	Ser	Met	Ser	Phe	Phe	Leu	Phe	Ser	Phe	Gln	Val
				100				105						110	
His	Glu	Lys	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Tyr
				115				120						125	
Thr	Ser	Arg	Asp	Trp	Asn	Val	Leu	Ser	Leu	Val	Cys	Trp	Ile	Asn	Asn
				130				135						140	
Val	Ala	Leu	Phe	Thr	Leu	Trp	Pro	Leu	Leu	Lys	Lys	Asp	Asn	Leu	Val
145					150					155				160	
Leu	Gln	Tyr	Gly	Val	Met	Phe	Met	Phe	Ser	Asn	Trp	Leu	Ile	Gly	Asn
				165						170				175	
Phe	Ser	Phe	Val	Thr	Pro	Arg	Phe	Leu	Pro	Lys	Phe	Leu	Thr	Pro	Gly
				180				185						190	
Pro	Ser	Ile	Ser	Asp	Ile	Asp	Val	Asp	Tyr	Arg	Arg	Ala	Ser	Leu	Leu
				195				200						205	
Pro	Lys	Ser	Leu	Ile	Trp	Arg	Leu	Ile	Ile	Val	Gly	Ser	Tyr	Ile	Ala
				210				215						220	
Met	Gly	Ile	Ile	His	Phe	Leu	Asp	Tyr	Tyr	Val	Ser	Pro	Pro	Ser	Gln
225					230					235				240	
Glu	Arg	Tyr	Lys	Tyr	Pro	Asp	Leu	Trp	Val	Leu	Ala	Asn	Cys	Ser	Leu
				245						250				255	
Gly	Phe	Ser	Cys	Phe	Val	Thr	Phe	Trp	Ile	Trp	Asn	Asn	Tyr	Xaa	Leu
				260				265						270	
Phe	Glu	Arg	Met	Arg	Asn	Ser	Thr	Leu	Gln	Asp	Leu				
				275				280							

<210> 89

<211> 280

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 89

Ile	Ala	Phe	Ala	Thr	Leu	Ala	Thr	Phe	Ala	Ile	Ile	Phe	Ala	Pro	Leu
1				5				10						15	

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Tyr Phe Leu Gly Gly Gly Leu Lys Asn Ile His Gln Cys Ile His Arg
      20                      25                      30
Ile Phe Pro Phe Ala Arg Gly Ile Phe Glu Asp Lys Val Ala Asn Phe
      35                      40                      45
Trp Cys Val Thr Asn Val Phe Val Lys Tyr Lys Glu Arg Phe Thr Ile
      50                      55                      60
Gln Gln Leu Gln Leu Tyr Ser Leu Ile Ala Thr Val Ile Gly Phe Leu
      65                      70                      75                      80
Pro Ala Met Ile Met Thr Leu Leu His Pro Lys Lys His Leu Leu Pro
      85                      90                      95
Tyr Val Leu Ile Ala Cys Ser Met Ser Phe Phe Leu Phe Ser Phe Gln
      100                     105                     110
Val His Glu Lys Thr Ile Leu Ile Pro Leu Leu Pro Ile Thr Leu Leu
      115                     120                     125
Tyr Ser Ser Thr Asp Trp Asn Val Leu Ser Leu Val Ser Trp Ile Asn
      130                     135                     140
Asn Val Ala Leu Phe Thr Leu Trp Pro Leu Leu Lys Lys Asp Gly Leu
      145                     150                     155                     160
His Leu Gln Tyr Ala Val Ser Phe Leu Leu Ser Asn Trp Leu Ile Gly
      165                     170                     175
Asn Phe Ser Phe Ile Thr Pro Arg Phe Leu Pro Lys Ser Leu Thr Pro
      180                     185                     190
Gly Pro Ser Ile Ser Ser Ile Asn Ser Asp Tyr Arg Arg Arg Ser Leu
      195                     200                     205
Leu Pro Tyr Asn Val Val Trp Lys Ser Phe Ile Ile Gly Thr Tyr Ile
      210                     215                     220
Ala Met Gly Phe Tyr His Phe Leu Asp Gln Phe Val Ala Pro Pro Ser
      225                     230                     235                     240
Lys Tyr Pro Asp Leu Trp Val Leu Leu Asn Cys Ala Val Gly Phe Ile
      245                     250                     255
Cys Phe Ser Ile Phe Trp Leu Trp Ser Tyr Tyr Lys Ile Phe Thr Ser
      260                     265                     270
Gly Ser Lys Ser Met Lys Asp Leu
      275                     280

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<210> 90

<211> 284

<212> PRT

<213> Kluveromyces lactis

<220>

<221> MOD_RES

<222> (116)...(127)

<223> Variable amino acid

<220>

<221> MOD_RES

<222> 271

<223> Variable amino acid

<400> 90

Ile	Ser	Val	Ser	Thr	Ala	Leu	Ala	Phe	Ile	Gly	Ser	Phe	Gly	Pro	Ile
1				5					10					15	
Tyr	Ile	Phe	Gly	Gly	Tyr	Lys	Asn	Leu	Val	Gln	Ser	Met	His	Arg	Ile
			20					25						30	
Phe	Pro	Phe	Ala	Arg	Gly	Ile	Phe	Glu	Asp	Lys	Val	Ala	Asn	Phe	Trp
			35				40						45		
Cys	Val	Ser	Asn	Ile	Phe	Ile	Lys	Tyr	Arg	Asn	Leu	Phe	Thr	Gln	Lys
			50				55				60				
Asp	Leu	Gln	Leu	Tyr	Ser	Leu	Leu	Ala	Thr	Val	Ile	Gly	Leu	Leu	Pro
65				70					75					80	
Ser	Phe	Ile	Ile	Thr	Phe	Leu	Tyr	Pro	Lys	Arg	His	Leu	Leu	Pro	Tyr
			85						90					95	
Ala	Leu	Ala	Ala	Cys	Ser	Met	Ser	Phe	Phe	Leu	Phe	Ser	Phe	Gln	Val
			100					105					110		
His	Glu	Lys	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Tyr
			115				120					125			
Thr	Ser	Arg	Asp	Trp	Asn	Val	Leu	Ser	Leu	Val	Cys	Trp	Ile	Asn	Asn
			130				135					140			
Val	Ala	Leu	Phe	Thr	Leu	Trp	Pro	Leu	Leu	Lys	Lys	Asp	Asn	Leu	Val
145				150					155					160	
Leu	Gln	Tyr	Gly	Val	Met	Phe	Met	Phe	Ser	Asn	Trp	Leu	Ile	Gly	Asn
			165						170					175	

Phe	Ser	Phe	Val	Thr	Pro	Arg	Phe	Leu	Pro	Lys	Phe	Leu	Thr	Pro	Gly
			180					185					190		
Pro	Ser	Ile	Ser	Asp	Ile	Asp	Val	Asp	Tyr	Arg	Arg	Ala	Ser	Leu	Leu
		195				200						205			
Pro	Lys	Ser	Leu	Ile	Trp	Arg	Leu	Ile	Ile	Val	Gly	Ser	Tyr	Ile	Ala
	210				215					220					
Met	Gly	Ile	Ile	His	Phe	Leu	Asp	Tyr	Tyr	Val	Ser	Pro	Pro	Ser	Gln
225				230					235					240	
Glu	Arg	Tyr	Lys	Tyr	Pro	Asp	Leu	Trp	Val	Leu	Ala	Asn	Cys	Ser	Leu
			245					250					255		
Gly	Phe	Ser	Cys	Phe	Val	Thr	Phe	Trp	Ile	Trp	Asn	Asn	Tyr	Xaa	Leu
		260					265						270		
Phe	Glu	Arg	Met	Arg	Asn	Ser	Thr	Leu	Gln	Asp	Leu				
	275						280								

<210> 91

<211> 250

<212> PRT

<213> Schizosaccharomyces pombe

<400> 91

Leu	Ser	Val	Thr	Val	Val	Phe	Thr	Phe	Ser	Leu	Ile	Leu	Phe	Pro	Trp
1				5				10					15		
Ile	Tyr	Met	Asp	Tyr	Lys	Thr	Leu	Leu	Pro	Gln	Ile	Leu	His	Arg	Val
		20					25					30			
Phe	Pro	Phe	Ala	Arg	Gly	Leu	Trp	Glu	Asp	Lys	Val	Ala	Asn	Phe	Trp
	35					40					45				
Cys	Thr	Leu	Asn	Thr	Val	Phe	Lys	Ile	Arg	Glu	Val	Phe	Thr	Leu	His
	50				55					60					
Gln	Leu	Gln	Val	Ile	Ser	Leu	Ile	Phe	Thr	Leu	Ile	Ser	Ile	Leu	Pro
65				70				75					80		
Ser	Cys	Val	Ile	Leu	Phe	Leu	Tyr	Pro	Arg	Lys	Arg	Leu	Leu	Ala	Leu
			85					90				95			
Gly	Phe	Ala	Ser	Ala	Ser	Trp	Gly	Phe	Phe	Leu	Phe	Ser	Phe	Gln	Val
		100					105					110			
His	Glu	Lys	Ser	Val	Leu	Leu	Pro	Leu	Leu	Pro	Thr	Ser	Ile	Leu	Leu

115	120	125
Cys His Gly Asn Ile Thr Thr Lys Pro Trp Ile Ala Leu Ala Asn Asn		
130	135	140
Leu Ala Val Phe Ser Leu Trp Pro Leu Leu Lys Lys Asp Gly Leu Gly		
145	150	155
Leu Gln Tyr Phe Thr Leu Val Leu Met Trp Asn Trp Ile Gly Asp Met		
165	170	175
Val Val Phe Ser Lys Asn Val Leu Phe Arg Phe Ile Gln Leu Ser Phe		
180	185	190
Tyr Val Gly Met Ile Val Ile Leu Gly Ile Asp Leu Phe Ile Pro Pro		
195	200	205
Pro Ser Arg Tyr Pro Asp Leu Trp Val Ile Leu Asn Val Thr Leu Ser		
210	215	220
Phe Ala Gly Phe Phe Thr Ile Tyr Leu Trp Thr Leu Gly Arg Leu Leu		
225	230	235
His Ile Ser Ser Lys Leu Ser Thr Asp Leu		
245	250	

<210> 92

<211> 238

<212> PRT

<213> Kluveromyces lactis

<220>

<221> MOD_RES

<222> (88)...(99)

<223> Variable amino acid

<400> 92

Met His Arg Ile Phe Pro Phe Ala Arg Gly Ile Phe Glu Asp Lys Val
1 5 10 15
Ala Asn Phe Trp Cys Val Ser Asn Ile Phe Ile Lys Tyr Arg Asn Leu
20 25 30
Phe Thr Gln Lys Asp Leu Gln Leu Tyr Ser Leu Leu Ala Thr Val Ile
35 40 45
Gly Leu Leu Pro Ser Phe Ile Ile Thr Phe Leu Tyr Pro Lys Arg His

50	55	60
Leu Leu Pro Tyr Ala Leu Ala Ala Cys Ser Met Ser Phe Phe Leu Phe		
65	70	75
Ser Phe Gln Val His Glu Lys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa		80
	85	90
Xaa Xaa Xaa Tyr Thr Ser Arg Asp Trp Asn Val Leu Ser Leu Val Cys		95
	100	105
Trp Ile Asn Asn Val Ala Leu Phe Thr Leu Trp Pro Leu Leu Lys Lys		110
	115	120
Asp Asn Leu Val Leu Gln Tyr Gly Val Met Phe Met Phe Ser Asn Trp		125
	130	135
Leu Ile Gly Asn Phe Ser Phe Val Thr Pro Arg Phe Leu Pro Lys Phe		140
	145	150
Leu Thr Pro Gly Pro Ser Ile Ser Asp Ile Asp Val Asp Tyr Arg Arg		155
	165	170
Ala Ser Leu Leu Pro Lys Ser Leu Ile Trp Arg Leu Ile Ile Val Gly		175
	180	185
Ser Tyr Ile Ala Met Gly Ile Ile His Phe Leu Asp Tyr Tyr Val Ser		190
	195	200
Pro Pro Ser Lys Tyr Pro Asp Leu Trp Val Leu Ala Asn Cys Ser Leu		205
	210	215
Gly Phe Ser Cys Phe Val Thr Phe Trp Ile Trp Asn Asn Tyr		220
	225	230
		235

<210> 93

<211> 219

<212> PRT

<213> Arabidopsis thaliana

<400> 93

Leu Ser Arg Leu Ala Pro Phe Glu Arg Gly Ile Tyr Glu Asp Tyr Val		
1	5	10
Ala Asn Phe Trp Cys Thr Thr Ser Ile Leu Ile Lys Trp Lys Asn Leu		15
	20	25
Phe Thr Thr Gln Ser Leu Lys Ser Ile Ser Leu Ala Ala Thr Ile Leu		30
	35	40
		45

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Ala Ser Leu Pro Ser Met Val Gln Gln Ile Leu Ser Pro Ser Asn Glu
  50                      55                      60
Gly Phe Leu Tyr Gly Leu Leu Asn Ser Ser Met Ala Phe Tyr Leu Phe
  65                      70                      75                      80
Ser Phe Gln Val His Glu Lys Ser Ile Leu Met Pro Phe Leu Ser Ala
                      85                      90                      95
Thr Leu Leu Ala Leu Lys Leu Pro Asp His Phe Ser His Leu Thr Tyr
                      100                      105                      110
Tyr Ala Leu Phe Ser Met Phe Pro Leu Leu Cys Arg Asp Lys Leu Leu
                      115                      120                      125
Ile Pro Tyr Leu Thr Leu Ser Phe Leu Phe Thr Val Ile Tyr His Ser
                      130                      135                      140
Pro Gly Asn His His Ala Ile Gln Lys Thr Asp Val Ser Phe Phe Ser
  145                      150                      155                      160
Phe Lys Asn Phe Pro Gly Tyr Val Phe Leu Leu Arg Thr His Phe Phe
                      165                      170                      175
Ile Ser Val Val Leu His Val Leu Tyr Leu Thr Ile Lys Pro Pro Gln
                      180                      185                      190
Lys Tyr Pro Phe Leu Phe Glu Ala Leu Ile Met Ile Leu Cys Phe Ser
                      195                      200                      205
Tyr Phe Ile Met Phe Ala Phe Tyr Thr Asn Tyr
                      210                      215

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<210> 94
<211> 252
<212> PRT
<213> Kluveromyces lactis

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<220>
<221> MOD_RES
<222> (114)...(125)
<223> Variable amino acid

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<400> 94
Val Ser Thr Ala Leu Ala Phe Ile Gly Ser Phe Gly Pro Ile Tyr Ile
  1                      5                      10                      15

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Phe Gly Gly Tyr Lys Asn Leu Val Gln Ser Met His Arg Ile Phe Pro
      20                      25                      30
Phe Ala Arg Gly Ile Phe Glu Asp Lys Val Ala Asn Phe Trp Cys Val
      35                      40                      45
Ser Asn Ile Phe Ile Lys Tyr Arg Asn Leu Phe Thr Gln Lys Asp Leu
      50                      55                      60
Gln Leu Tyr Ser Leu Leu Ala Thr Val Ile Gly Leu Leu Pro Ser Phe
      65                      70                      75                      80
Ile Ile Thr Phe Leu Tyr Pro Lys Arg His Leu Leu Pro Tyr Ala Leu
      85                      90                      95
Ala Ala Cys Ser Met Ser Phe Phe Leu Phe Ser Phe Gln Val His Glu
      100                     105                     110
Lys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Tyr Thr Ser
      115                     120                     125
Arg Asp Trp Asn Val Leu Ser Leu Val Cys Trp Ile Asn Asn Val Ala
      130                     135                     140
Leu Phe Thr Leu Trp Pro Leu Leu Lys Lys Asp Asn Leu Val Leu Gln
      145                     150                     155                     160
Tyr Gly Val Met Phe Met Val Thr Pro Arg Phe Leu Pro Lys Phe Leu
      165                     170                     175
Thr Pro Gly Pro Ser Ile Ser Asp Ile Asp Val Asp Tyr Arg Arg Ala
      180                     185                     190
Ser Leu Leu Pro Lys Ser Leu Ile Trp Arg Leu Ile Ile Val Gly Ser
      195                     200                     205
Tyr Ile Ala Met Gly Ile Ile His Phe Leu Asp Tyr Tyr Val Ser Pro
      210                     215                     220
Pro Ser Lys Tyr Pro Asp Leu Trp Val Leu Ala Asn Cys Ser Leu Gly
      225                     230                     235                     240
Phe Ser Cys Phe Val Thr Phe Trp Ile Trp Asn Asn
      245                     250

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<210> 95

<211> 259

<212> PRT

<213> Homo sapiens

<400> 95

Val	Lys	Leu	Ala	Cys	Ile	Val	Val	Ala	Ser	Phe	Val	Leu	Cys	Trp	Leu
1				5					10					15	
Pro	Phe	Phe	Thr	Glu	Arg	Glu	Gln	Thr	Leu	Gln	Val	Leu	Arg	Arg	Leu
			20					25					30		
Phe	Pro	Val	Asp	Arg	Gly	Leu	Phe	Glu	Asp	Lys	Val	Ala	Asn	Ile	Trp
		35					40					45			
Cys	Ser	Phe	Asn	Val	Phe	Leu	Lys	Ile	Lys	Asp	Ile	Leu	Pro	Arg	His
	50					55					60				
Ile	Gln	Leu	Ile	Met	Ser	Phe	Cys	Phe	Thr	Phe	Leu	Ser	Leu	Leu	Pro
65				70					75					80	
Ala	Cys	Ile	Lys	Leu	Ile	Leu	Gln	Pro	Ser	Ser	Lys	Gly	Phe	Lys	Phe
			85					90						95	
Thr	Leu	Val	Ser	Cys	Ala	Leu	Ser	Phe	Phe	Leu	Phe	Ser	Phe	Gln	Val
		100						105					110		
His	Glu	Lys	Ser	Ile	Leu	Leu	Val	Ser	Leu	Pro	Val	Cys	Leu	Val	Leu
		115					120					125			
Ser	Glu	Ile	Pro	Phe	Met	Ser	Thr	Trp	Phe	Leu	Leu	Val	Ser	Thr	Phe
	130					135						140			
Ser	Met	Leu	Pro	Leu	Leu	Leu	Lys	Asp	Glu	Leu	Leu	Met	Pro	Ser	Val
145				150					155					160	
Val	Thr	Thr	Met	Ala	Phe	Phe	Ile	Ala	Cys	Val	Thr	Ser	Phe	Ser	Ile
			165					170						175	
Phe	Glu	Lys	Thr	Ser	Glu	Glu	Glu	Leu	Gln	Leu	Lys	Ser	Phe	Ser	Ile
		180					185						190		
Ser	Val	Arg	Lys	Tyr	Leu	Pro	Cys	Phe	Thr	Phe	Leu	Ser	Arg	Ile	Ile
		195					200					205			
Gln	Tyr	Leu	Phe	Leu	Ile	Ser	Val	Ile	Thr	Met	Val	Leu	Leu	Thr	Leu
	210					215					220				
Met	Thr	Val	Thr	Leu	Asp	Pro	Pro	Gln	Lys	Leu	Pro	Asp	Leu	Phe	Ser
225				230					235					240	
Val	Leu	Val	Cys	Phe	Val	Ser	Cys	Leu	Asn	Phe	Leu	Phe	Phe	Leu	Val
			245					250						255	
Tyr	Phe	Asn													

<210> 96

<211> 1617

<212> DNA

<213> Mus musculus

<400> 96

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<210> 97

<211> 536

<212> PRT

<213> Mus musculus

<400> 97

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          50           55           60
Pro Asp Leu Leu Arg Thr Pro Leu Tyr Ser His Ser Pro Leu Leu Gln
65           70           75           80
Pro Leu Ser Pro Ser Lys Ala Thr Glu Glu Leu His Arg Val Asp Phe
          85           90           95
Val Leu Pro Glu Asp Thr Thr Glu Tyr Phe Val Arg Thr Lys Ala Gly
          100          105          110
Gly Val Cys Phe Lys Pro Gly Thr Arg Met Leu Glu Lys Pro Ser Pro
          115          120          125
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          130          135          140
Gly Pro Ala Arg Arg Pro Met Arg His Val Leu Ser Ser Arg Glu Arg
145          150          155          160
Leu Gly Ser Arg Gly Thr Arg Arg Lys Trp Val Glu Cys Val Cys Leu
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          180          185          190
Ser Asn Leu Pro Thr Lys Glu Arg Leu Val Pro Arg Glu Val Pro Arg
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Arg Val Ile Asn Ala Ile Asn Ile Asn His Glu Phe Asp Leu Leu Asp
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Val Arg Phe His Glu Leu Gly Asp Val Val Asp Ala Phe Val Val Cys
225          230          235          240
Asp Ser Asn Phe Thr Ala Tyr Gly Glu Pro Arg Pro Leu Lys Phe Arg
          245          250          255
Glu Met Leu Thr Asn Gly Thr Phe Glu Tyr Ile Arg His Lys Val Leu
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Gly Trp Thr Glu Pro Phe Ala Phe His Met Arg Lys Ser Leu Tyr Gly
                      340                      345                      350
Phe Phe Trp Lys Gln Pro Gly Thr Leu Glu Val Val Ser Gly Cys Thr
                      355                      360                      365
Met Asp Met Leu Gln Ala Val Tyr Gly Leu Asp Gly Ile Arg Leu Arg
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Arg Arg Gln Tyr Tyr Thr Met Pro Asn Phe Arg Gln Tyr Glu Asn Arg
      385                      390                      395                      400
Thr Gly His Ile Leu Val Gln Trp Ser Leu Gly Ser Pro Leu His Phe
                      405                      410                      415
Ala Gly Trp His Cys Ser Trp Cys Phe Thr Pro Glu Gly Ile Tyr Phe
                      420                      425                      430
Lys Leu Val Ser Ala Gln Asn Gly Asp Phe Pro Arg Trp Gly Asp Tyr
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Glu Asp Lys Arg Asp Leu Asn Tyr Ile Arg Ser Leu Ile Arg Thr Gly
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Gly Trp Phe Asp Gly Thr Gln Gln Glu Tyr Pro Pro Ala Asp Pro Ser
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Glu His Met Tyr Ala Pro Lys Tyr Leu Leu Lys Asn Tyr Asp Gln Phe
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Arg Tyr Leu Leu Glu Asn Pro Tyr Arg Glu Pro Lys Ser Thr Val Glu
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Gly Lys Leu Asp Thr Ala Glu Gly
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<210> 98

<211> 2115

<212> DNA

<213> Homo sapiens

<400> 98

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<210> 99

<211> 535

<212> PRT

<213> Homo sapiens

<400> 99

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			20					25					30		
Lys	Leu	Ile	Ala	Tyr	Gln	Arg	Glu	Phe	Leu	Ala	Leu	Lys	Glu	Arg	Leu
			35				40					45			
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Ile	Val	Gln	Gln	Phe	Lys	Arg	Val	Gly	Ala	Glu	Thr	Asn	Gly	Ser	Lys
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Leu	Thr	Ser	Lys	Lys	Ser	Leu	Gln	Val	Pro	Ser	Ile	Tyr	Tyr	His	Leu
			100					105					110		
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                      355                      360                      365
Ser Gly Lys Ile Gln Lys Leu Thr Asp Lys Asp Tyr Met Lys Pro Leu
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Leu Leu Lys Ile His Val Asn Pro Pro Ala Glu Val Ser Thr Ser Leu
385                      390                      395                      400
Lys Val Tyr Gln Gly His Thr Leu Glu Lys Thr Tyr Met Gly Glu Asp
                      405                      410                      415
Phe Phe Trp Ala Ile Thr Pro Ile Ala Gly Asp Tyr Ile Leu Phe Lys
                      420                      425                      430
Phe Asp Lys Pro Val Asn Val Glu Ser Tyr Leu Phe His Ser Gly Asn
                      435                      440                      445
Gln Glu His Pro Gly Asp Ile Leu Leu Asn Thr Thr Val Glu Val Leu
                      450                      455                      460
Pro Phe Lys Ser Glu Gly Leu Glu Ile Ser Lys Glu Thr Lys Asp Lys
465                      470                      475                      480
Arg Leu Glu Asp Gly Tyr Phe Arg Ile Gly Lys Phe Glu Asn Gly Val
                      485                      490                      495
Ala Glu Gly Met Val Asp Pro Ser Leu Asn Pro Ile Ser Ala Phe Arg

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His Ile Lys Lys Ala Thr Asn		
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<210> 100

<211> 3226

<212> DNA

<213> Mus musculus

<400> 100

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<211> 740

<212> PRT

<213> Mus musculus

<400> 101

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			20					25					30		
Thr	Ile	Gln	Gln	Arg	Thr	Gln	Pro	Glu	Ser	Ser	Ser	Met	Leu	Arg	Glu
		35					40					45			
Gln	Ile	Leu	Asp	Leu	Ser	Lys	Arg	Tyr	Ile	Lys	Ala	Leu	Ala	Glu	Glu
	50					55					60				
Asn	Arg	Asp	Val	Val	Asp	Gly	Pro	Tyr	Ala	Gly	Val	Met	Thr	Ala	Tyr
65					70					75					80
Asp	Leu	Lys	Lys	Thr	Leu	Ala	Val	Leu	Leu	Asp	Asn	Ile	Leu	Gln	Arg
				85					90					95	
Ile	Gly	Lys	Leu	Glu	Ser	Lys	Val	Asp	Asn	Leu	Val	Asn	Gly	Thr	Gly
			100					105					110		
Ala	Asn	Ser	Thr	Asn	Ser	Thr	Thr	Ala	Val	Pro	Ser	Leu	Val	Ser	Leu
		115					120					125			
Glu	Lys	Ile	Asn	Val	Ala	Asp	Ile	Ile	Asn	Gly	Val	Gln	Glu	Lys	Cys
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Trp	Met	Lys	Asp	Met	Trp	Arg	Ser	Asp	Pro	Cys	Tyr	Ala	Asp	Tyr	Gly
				165					170					175	
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			180					185					190		
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	195						200					205			
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	210					215					220				
Tyr	Gly	Met	Met	Lys	Lys	His	Glu	Glu	Phe	Arg	Trp	Met	Arg	Leu	Arg
225					230					235					240
Ile	Arg	Arg	Met	Ala	Asp	Ala	Trp	Ile	Gln	Ala	Ile	Lys	Ser	Leu	Ala
				245					250					255	
Glu	Lys	Gln	Asn	Leu	Glu	Lys	Arg	Lys	Arg	Lys	Lys	Ile	Leu	Val	His
		260					265					270			
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Val Gly Leu Ala Gln Phe Lys Lys Thr Leu Gly Pro Ser Trp Val His				
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Tyr Gln Cys Met Leu Arg Val Leu Asp Ser Phe Gly Thr Glu Pro Glu				
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Phe Asn His Ala Ser Tyr Ala Gln Ser Lys Gly His Lys Thr Pro Trp				
385		390		395
Gly Lys Trp Asn Leu Asn Pro Gln Gln Phe Tyr Thr Met Phe Pro His				
	405		410	415
Thr Pro Asp Asn Ser Phe Leu Gly Phe Val Val Glu Gln His Leu Asn				
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	485		490	495
Ser Gly Arg Asp Leu Gln Phe Leu Leu Arg Glu Thr Lys Leu Phe Val				
	500		505	510
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 625 630 635 640
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 660 665 670
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 675 680 685
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 690 695 700
 Gly Asp Leu Leu Leu Phe Ser Cys Ala Gly Ala His Pro Thr His Gln
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<211> 4

<212> PRT

<213> Artificial Sequence

<220>

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<400> 102

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<210> 103

<211> 60

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 103

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      20              25              30
Ile Leu Ile Phe Trp Ser Gly Met Pro Phe Phe Val Gly Pro Ile Trp
      35              40              45
Tyr Val Leu His Glu Trp Cys Trp Asn Ser Tyr Pro
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<210> 104

<211> 58

<212> PRT

<213> *Drosophila virilis*

<400> 104

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Leu Pro Phe Phe Leu Cys Asn Phe Ile Gly Val Ala Cys Ala Arg Ser
 1              5              10              15
Leu His Tyr Gln Phe Tyr Ile Trp Tyr Phe His Ser Leu Pro Tyr Leu
      20              25              30
Val Trp Ser Thr Pro Tyr Ser Leu Gly Val Arg Tyr Leu Ile Leu Gly
      35              40              45
Ile Ile Glu Tyr Cys Trp Asn Thr Tyr Pro
      50              55

```

<210> 105

<211> 60

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 105

```

Ile Pro Phe Val Leu Ile Ala Ser Asn Phe Ile Gly Val Leu Phe Ser

```

```

      1             5             10             15
Arg Ser Leu His Tyr Gln Phe Leu Ser Trp Tyr His Trp Thr Leu Pro
      20             25             30
Ile Leu Ile Phe Trp Ser Gly Met Pro Phe Phe Val Gly Pro Ile Trp
      35             40             45
Tyr Val Leu His Glu Trp Cys Trp Asn Ser Tyr Pro
      50             55             60

```

<210> 106

<211> 59

<212> PRT

<213> Drosophila melanogaster

<400> 106

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Leu Pro Phe Phe Leu Cys Asn Leu Val Gly Val Ala Cys Ala Ser Arg
  1             5             10             15
Ser Leu His Tyr Gln Phe Tyr Val Trp Tyr Phe His Ser Leu Pro Tyr
      20             25             30
Leu Ala Trp Ser Thr Pro Tyr Ser Leu Gly Val Arg Cys Leu Ile Leu
      35             40             45
Gly Leu Ile Glu Tyr Cys Trp Asn Thr Tyr Pro
      50             55

```